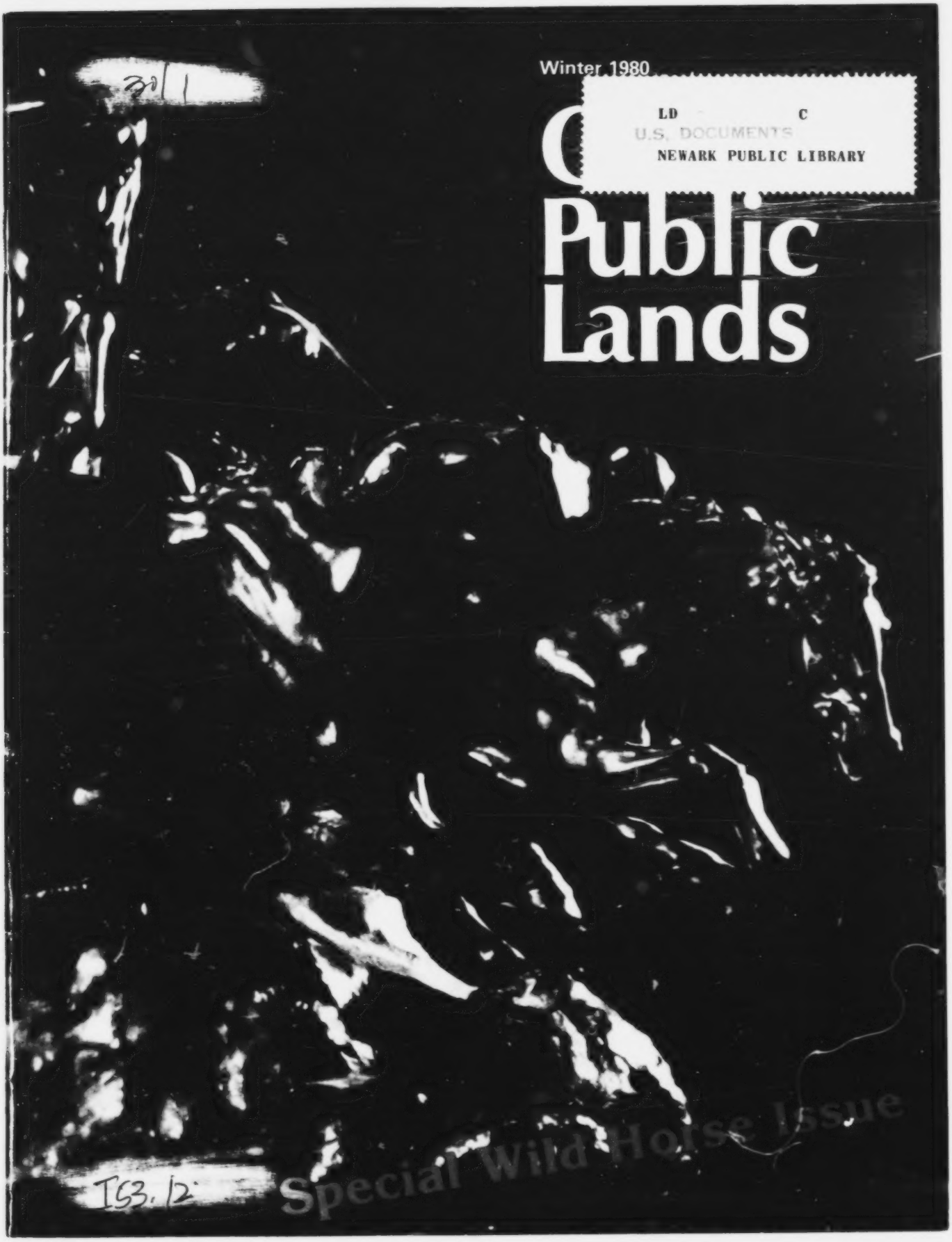

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Our Public Lands

Winter 1980

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COVER PHOTO: "Mares of Diomedes", 1904, by Gutzo Borglum. Sculpture on loan to the Corcoran Gallery of Art, Washington, D.C. from the estate of Agnes E. Meyer. Photographed by Don Cabrera, BLM.

ABOUT THIS ISSUE:

This edition of *Our Public Lands* is devoted exclusively to the Bureau of Land Management's wild horse and burro management program. The staff of *Our Public Lands* has tried to give readers a better understanding of the wild horse and burro management program and the steps BLM is taking to insure that future generations will see wild horses and burros roaming free over our Nation's public lands.

Contributing to this issue were Connie Babb, Joan Comanor, Rebecca Daugherty, and Haywood Meeks of BLM's Washington Office; Don Smurthwaite, BLM Oregon State Office; Robert Stewart, BLM Nevada State Office.

WILD HORSES AND BURROS: Getting Their Fair Share

Once numbered in the millions, almost decimated for pet food, these symbols of our western heritage now are looked upon as bona fide, legal users of the public rangelands.

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Like the relics left by ancient Indian tribes and the still visible ruts made by wagon trains, wild horses and burros are important links to our heritage. Their ancestors played a significant role in the history of the West because of their use by Indians, explorers, and settlers. Our image of the cowboy and miner is indelibly stamped with the presence of a horse and burro.

The legend of the wild horses holds that they first stepped ashore in the New World when Columbus landed in the West Indies on his second voyage. Spanish conquistadors introduced both horses and burros to the mainland of the Americas in the 1500's. Horses that escaped during the Spanish expeditions out of Mexico became the nucleus of the first wild horse herds in North America, according to the legend.

Wherever they came from, we do know that these first herds were joined through the years by horses that escaped from wagon trains and by those turned loose by farmers and ranchers. Many were turned out on the public lands when water and forage were scarce in the "dust bowl" of the 1930's.

Burros were brought to the West by Jesuit missionaries and later were used extensively by miners. When mining camps failed or Indians ambushed camps, the burros were left to roam the deserts.

After the second World War, a commercial demand for horsemeat for pet food made horse hunting profitable. Capturing horses and taking them to market in the fastest (usually abusive) manner was most profitable.

The late Velma Johnston of Reno, Nevada, led a nationwide campaign to curb abuses to the animals. She adopted the nickname "Wild Horse Annie" after overhearing herself being called that at a Congressional hearing in Washington, D.C.

Mrs. Johnston's efforts led to the "Wild Horse Annie Act" of 1959, the first law to recognize the existence of the wild horses and burros and the first in a series of legislative actions to protect them. The Act prohibited the use of motorized vehicles and aircraft in chasing, harassing or capturing the animals on the public lands. The animals could still be captured or destroyed under State or local law.

"Wild Horse Annie" continued her campaign to protect the animals and was aided by humane societies and horse protection organizations. Also, thousands of school children joined in a nationwide letter-writing crusade to members of Congress.

In 1971, Congress responded by passing the Wild Free-Roaming Horse and Burro Act to recognize and protect these animals and preserve the link they give us to our heritage.

The 1971 Act delegated to the Secretaries of the Interior and Agriculture the authority and responsibility for protection, management, and control of wild horses and burros on public lands administered through the BLM and the Forest Service. Criminal penalties were attached to:

- removal of a wild horse or burro without authority;
- conversion to private use without permission;
- malicious death or harassment;

Wild horses in flight across a desert in Nevada, the State with more than half of the wild horse population in the U.S.

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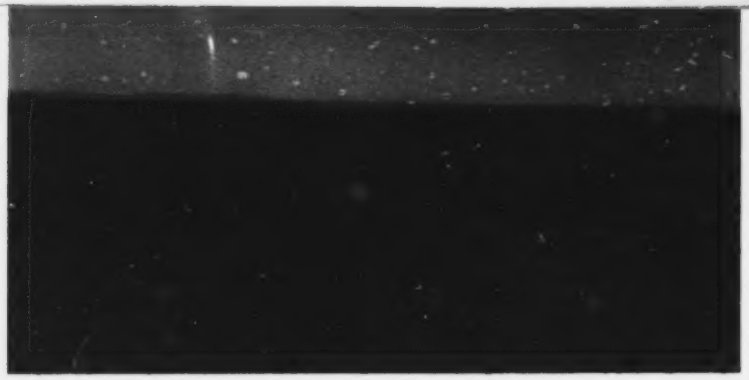


Overgrazing has a devastating effect on the fragile public rangelands as shown in the photo at top. Seven years of intensive management of grazing use were required to attain the vegetation growth shown below.

- processing or permitting the processing of an animal or its remains into commercial products;
- sale of an animal or its remains; and
- violations of regulations issued to carry out the Act.

The Act also provided that removal of animals that stray onto private property be undertaken by the Federal agency rather than the landowner. The law also provided three ways to control increasing wild horse and burro populations:

- moving them to other locations where wild horses existed on the effective date of the Wild Free-Roaming Horse and Burro Act;
- destroying them in a humane manner; or
- placing them in the care of private individuals under an agreement with the Federal Government. The "adopted" animals would remain the property of the U.S. Government for their lifetime.

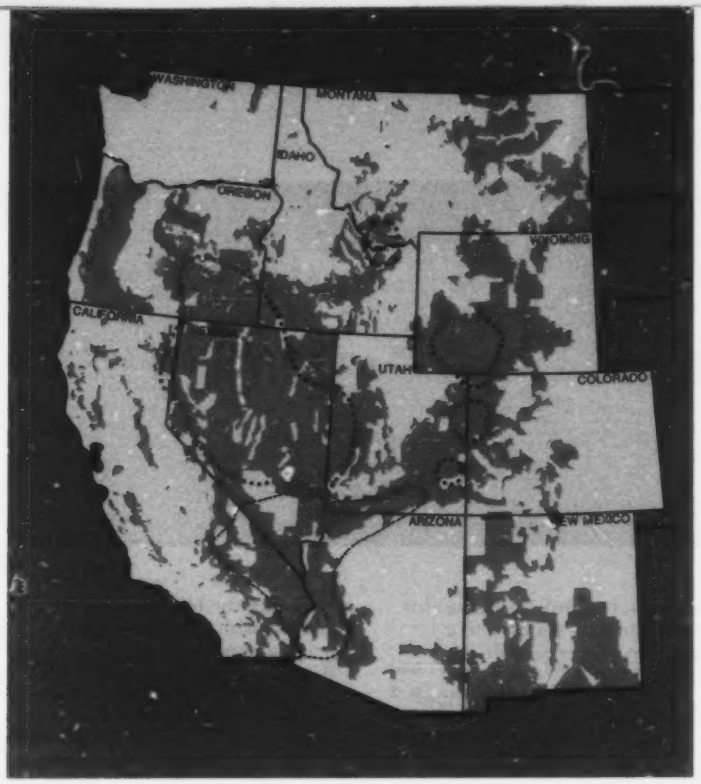
Protected under the 1971 Act, wild horse and burro numbers rapidly increased. The rangelands deteriorated to the point that the animals were dying of starvation. Other wild horses and burros were wandering into towns to eat lawns and shrubs. To save the rangelands, BLM began cutting back on the numbers of animals livestock operators were permitted to graze and, at the same time, BLM started removing excess wild horses and burros. To dispose of the wild horses and burros, BLM came to rely on the third alternative the 1971 Act provided: maintenance by private individuals. Horses were first placed into adoption in 1973 in Montana and the Adopt-A-Horse Program went nationwide three years later.

The Wild Free-Roaming Horse and Burro Act has been amended twice since 1971. The Federal Land Policy and Management Act of 1976 provides specific authority to use helicopters for capturing the animals and motor vehicles for transport of captured animals.

Section 14 of the Public Rangelands Improvement Act of 1978 further amended the 1971 Act to spell out in some detail BLM's responsibility for inventorying wild horse and burro populations, for determining appropriate population levels and whether there are, in fact, excess animals that should be removed from a given area, and for taking appropriate action. In addition, where adopted animals have been cared for humanely for one year, the adopter may receive title to up to four animals a year. When title to the animals is transferred, they are no longer covered by the Wild Free-Roaming Horse and Burro Act. (See story on page 13.)

Sharing the Rangelands

Wild horses and burros are a vital part of the Western rangeland's ecosystem and their protection and management are important responsibilities for BLM. The Bureau must assure that healthy populations are maintained in a wild state and that handling of the animals is humane. The Bureau's actions are important to livestock operators and livestock-dependent communities whose economic concerns are affected when the same forage and water resources are used by domestic livestock and wild horses and burros. The Bureau's actions are also important to those concerned with wildlife populations and other environmental values on



LEGEND

Major Concentrations of Lands Managed by BLM

• • • Major Wild Horse Areas

---- Major Wild Burro Areas

the same rangelands, as well as to those whose interests may be affected by soil erosion and by siltation on overgrazed rangelands.

Whatever actions the Bureau takes are controlled by the Federal Land Policy and Management Act of 1976 which requires that the public lands be administered under the principles of multiple use and sustained yield. That means the Bureau is responsible for managing the full range of uses and values of these lands—including wild horses and burros, domestic livestock, wildlife, minerals development, recreation, watershed, and many others. Consequently, decisions on wild horses and burros must be an integral part of a multiple-use planning and management process.

This multiple use planning process focuses on what BLM calls "resource areas," the smallest units in the agency's land management system. These resource areas, which collectively make up land "districts," are determined by natural boundaries or county or State lines, or they are arbitrarily formed to break down the 174 million acres of western public lands in the lower 48 States into manageable units.

The first step in the process is an inventory of all the resources available in the area: vegetation, soil types, mineral deposits, wildlife, water sources, and other values. Next, all activities in the area are identified, weighed and compared on the basis of environmental, social and economic consideration, and a land use plan is prepared to describe the management goals of the entire area. Then detailed plans are prepared for each specific resource. For instance, there could be a plan for recreation, another for mineral development, a forage-allotment plan for domestic livestock, a plan for timber production, and for a variety of other uses being made of the land. The public participates in each phase of the planning process.

When wild horses or burros occupy an area, a Herd Management Area Plan is prepared. The plan identifies the number of wild horses or burros to be managed in

Wild burros, nicknamed "desert canaries," are found primarily in Arizona and California.

the geographic area as one of the multiple uses. In some instances, wild horses and burros and wildlife might be the only use prescribed.

Watering facilities, soil types, and vegetation species are also documented in the plan. Objectives are stated for protection, management and control of the animals and how each objective will be accomplished. Age and sex ratios may be established to insure maintaining a viable herd. The plan lists facilities needed for improvement, such as fencing to control livestock grazing or wells to improve water supplies.

In the planning process, if it is determined that there are too many wild horses or burros, the plan also addresses how and when they will be removed. However, before any removal operation is carried out, an environmental assessment is prepared and made available for public review and comment. If helicopters are to be used to capture the animals, a public meeting is held to discuss the entire procedure.

As excess animals are removed, they are offered for adoption through the Adopt-A-Horse Program.

The Bureau strives to handle all aspects of wild horse and burro management humanely, diligently, and efficiently, within the context of multiple use of the rangeland resources.

The inventory and planning processes described above are an integral part of the Bureau's continuous land-use planning system. In areas where there is serious overgrazing, interim Herd Management Area Plans are developed immediately to deal with the specific problems in those areas. Here, too, environmental assessments are prepared for public review and comment.

As excess animals are removed from the rangelands, they are transported to BLM's wild horse and burro holding facilities. Major facilities are located in Palomino Valley, Nevada; Rock Springs, Wyoming; Susanville, California; and Burns, Oregon. Adopters who have applied for animals pick up their horses or burros at holding facilities, or, in many cases, wait for their animal to be shipped to a distribution center outside the West.

The Bureau has faced a number of difficulties in carrying out the provisions of the Wild Free-Roaming Horse and Burro Act of 1971. Claiming the Bureau was dragging its feet, livestock operators and at least one State Government have sued BLM in an effort to speed up removal. On the other hand, certain horse protection organizations oppose removal of horses from the public ranges and have sued to stop roundups. Cases are still pending before the courts.

An internal review of the management program in early 1978 revealed shortcomings in two principal areas: in roundup and holding practices and facilities prior to adoption; and in monitoring, following adoption. The Bureau took immediate steps, investing a large amount of money and manpower, to improve the handling methods and facilities, and to investigate and bring suit against individuals who had abused or sold animals obtained through the Adopt-A-Horse Program. Several convictions resulted.

More recently, BLM took two major steps to bring wild horses and burros under full management and to ensure the quality of the adoption process. To oversee all wild horse and burro management activities, a separate Wild Horse and Burro Division was created and fully staffed in the Washington Office. Secondly, a comprehensive policy statement was formulated and circulated Bureau-wide to all employees involved directly or indirectly with wild horse and burro management.

In addition to documenting the Bureau's philosophy and management objectives, the policy statement provides employees with detailed instructions for carrying out each activity of the wild horse and burro management program. Included are directions for inventory, planning, and on-the-ground management of wild horses and burros; their removal from the public rangelands, and the disposition and treatment of the animals after capture. Also in the policy statement are precise instructions to be followed in the Adopt-A-Horse Program, including the prescreening of applicants who want to adopt a wild horse or burro and establishment of mechanisms through which treatment of the animals after adoption can be monitored.

In the past 20 years, through strong public concern and Congressional response to this concern, wild horses and burros have become protected national resources. Their new status poses problems in effective range management; however, strong efforts are underway to preserve healthy and viable herds in a way that will not destroy the rangelands needed for wild horses and burros, wildlife, domestic livestock, outdoor recreation, and other uses.

HERDED BY HELICOPTER

New, old methods combine to corral wild horses & burros.

Roaming the range, free and wild from birth, the wild horse is perceptive of his surroundings, suspicious of any change or intrusion and does not succumb easily to roundup. When the Wild Free-Roaming Horse and Burro Act was passed in 1971, the Bureau of Land Managment was faced with a new problem—how to round up the animals efficiently and, more important, safely. Safety was a concern not only for the wild horses, but for the wranglers and their mounts as well.

In traditional cowboy fashion, BLM wranglers rode out into the areas where horses might be found, searching out herds and corralling them. It was a rough, dirty job, hard on the men, their mounts and the wild horses. It was not uncommon for eight men to spend a week searching for their animals and perhaps return empty-handed. And it was dangerous. Men have been seriously hurt, and both saddle horses and wild horses have been killed or so seriously injured they have had to be destroyed.

Other, safer methods were experimented with. Water trapping and feed trapping were tried. These methods involve setting up portable corrals around either water or food, whichever is scarcest to the animals at the time. A remote-sensored gate is operated by someone hidden from view and at a good, safe distance from the corral. When the animals enter the fenced area for food or water, the gate is closed behind them. This method is still used for trapping wild burros and some horses. But it is time-consuming and can prove to be unreliable for trapping horses.

In October 1976, new Federal legislation allowed BLM the use of helicopters for the roundup process. Helicopter pilots now assist the cowboys and the choppers have made the process of roundup safer for both the horses and the men.

Unlike wranglers on horseback, a chopper pilot doesn't have to know every canyon and gully of the terrain. He can see where the horses are—or might be. But he must be familiar with wild horse behavior in order to anticipate their moves. He must be aware of the condition of the animals and not exceed their limitations when driving them. He must know where they might head and when to let them pick their own course. For the safety of the animals, he must consider terrain, weather and distance to be traveled and be able to maneuver the horses away from hazards. He must be careful to keep the herds together and watch for signs of stress in the animals.

A whirring helicopter is today's safer, easier and more economical means for rounding up excess wild horses.

READEX FICHE

Government cowboys herd a band of wild horses into the capture corral.

But, even the modern helicopter wrangler cannot do the job alone. On the ground, a team of mounted cowboys waits to be radioed when the chopper pilot has done his part of the job and it is then their turn to finish it. The wranglers have with them "traitor horses," which have been trained to gallop into the portable chutes and corrals, luring the wild herd along behind them. When the signal is given from the chopper, the wranglers turn the "traitor horses" loose. Billows of dust clouds follow as the "traitor horses" gallop toward the portable chutes on the range, hopefully with the full herd in dusty pursuit. Those that decide not to follow are corralled by the wranglers and their mounts.

The decision to remove wild horses and burros from an area involves a detailed planning process by BLM. Alternative land uses are identified and compared on the basis of environmental, social and economic considerations. The optimum number of wild horses and burros the area will support is calculated. Herd management plans are then prepared to specify actions needed to manage the animals.

If the number of wild horses or burros exceeds that which an area can support, a capture plan is prepared. This includes a plan for the roundup, and timing and sequence of events, including transportation of the animals to a holding facility. The plan provides for the presence or availability of a licensed veterinarian during capture operations. An environmental assessment is then prepared on each capture plan and made available for public comment. If helicopters are to be used, a public meeting is held.

Roundups are scheduled and conducted when there is minimal risk of injury or harmful effects to the health of the animals. They are never gathered immediately before, during, or immediately after foaling season. Firearms cannot be discharged from helicopters during roundups, and injured animals may be destroyed only by a licensed veterinarian or BLM-authorized officer.

After the roundup, the wild horses and burros are taken to one of BLM's several holding corrals in the far West. Here they are examined by a veterinarian, marked for identification, and held for selection by prospective adopters or shipped to a BLM distribution center in the East or Midwest.

Captured wild horses arrive at the BLM distribution center near Susanville, California, where they will be made available for adoption.

WILD HORSES AND BURROS FIND HOMES ON OTHER RANGES

Some are tamed and trained for farming, riding, and packing; others win blue ribbons as show animals.

"Frankly, I thought it was one of the ugliest animals I'd ever seen," commented Don Warford.

The Port Orchard, Washington horse lover was referring to a mustang he received through the Bureau of Land Management's Adopt-A-Horse Program.

When he went to pick up his horse, Warford was told all of the horses had been adopted except one. Warford said, "I kept asking if other horses were available and kept getting told 'no.' The one horse followed me around the whole time I was there, and kept taking hay out of my hand. Finally I decided, oh well, let's take him home even if he isn't pretty.

Warford's homely horse, Boomerang, is a source of pride now, after proper nourishment and attention. Visitors to the Warford home have a hard time believing that the sleek, gentle Boomerang was "wild" on the range not so many months ago.

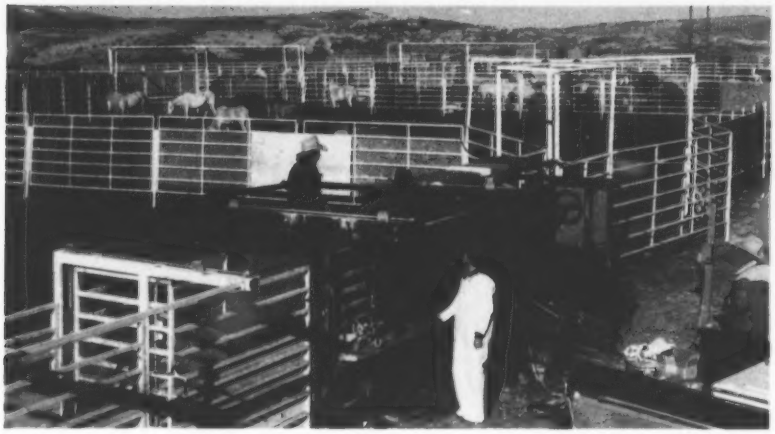
Boomerang is one of 17,236 excess wild horses and burros BLM has removed from the western public rangelands as of February 1980 and placed in the care of private citizens like Don Warford. Horse and burro lovers in practically every state are now caring for animals taken from the range to prevent overgrazing, to help rehabilitate deteriorating rangelands and, in some instances, to protect herds from starvation.

BLM began its search for foster homes for excess wild horses and burros soon after Congress passed the Wild Free-Roaming Horse and Burro Act of 1971. In the Act, Congress told BLM to protect the basic resources of the public rangelands and provided three methods of controlling wild horses and burros. They could be relocated to other areas if the areas were inhabited by wild horses and burros on the date of the Act. They could be placed in custody of individuals, organizations, and other government agencies. Or, when these methods were impractical, they could be destroyed in a humane manner.

Transfer of the animals to other areas of the public lands was considered impractical, as it would really amount to merely shifting the problem. Most areas inhabited by wild horses and burros at the time of the 1971 Act were either overgrazed or close to being overused. An adoption program was by far the preferable solution.

In 1973, the first animals were adopted. Twenty-three excess horses removed from the Pryor Mountain Wild Horse Range along the Wyoming-Montana border were placed in adoption. The next year, BLM began an adoption program in Oregon followed by one in Nevada in 1975. Favorable public response in these states led BLM to launch a nationwide adoption program in the spring of 1976.

An adopted horse gets ready for the trip to its new home.



This distribution center in Rock Springs, Wyoming, is one of seven permanent corrals where adopters may pick up their animals.

Riding master Bob Shuping handles one of several adopted wild horses used for vocational training at the Longstretch Youth Home in Western Maryland.

Adopter Lorraine Warford of Port Orchard, Washington, found a rare Medicine Hat stallion hiding under a coat of dirt. The horse is held sacred by some Indian tribes because of its special markings.

With some exceptions, wild horses generally remain skittish for a long time in new fenced-in surroundings. "Some of the cowboys in Wyoming were saying I'd never get close to them," is how adopter Karen Tracy of Grand Junction, Colorado, describes her success with two wild mustangs she adopted. After two months, Tracy admitted that getting close to them is about all she had accomplished. But, she says, it takes time as she was gentle-breaking them. "I'm not using a rope on them, and I'm trying not to be rough with them."

Tim York of Clinton, Wisconsin, says his family's young stallion, Nevada's Blue Gambler, was afraid of everything when they first got him home. "He had never seen dogs, cats, chickens, pigs, cows, green trees and grass, fences, barns, tractors, or anything that goes with people. He is really smart though, and once he learned not to be afraid of things, he learned quickly." Tim has earned several trophies with Gambler as his 4-H project.

About her palomino, Expensive, Karen Gesberg of Gardnerville, Nevada, wrote BLM: "Other horse people are amazed with the results and flat shocked because she was so quick to learn."

The way to a burro's heart is through his belly. Fed well, it settles into a new home with remarkable ease. Most burros soon become lovable barnyard pets. Others enjoy a more varied lifestyle.

A school in West Virginia set out to use burros to teach youngsters about "wild" animals. That worked for the first year, but then the program had to be changed because there was nothing wild about the loving burros.

Another pair of burros from the desert country of California act as companions and pets for a handicapped child in Florida. There is a former free-roaming burro acquitting himself well in "prospector races," where man and burro trek over a rugged race course. Last spring, in Southern California, a burro and its adopter joined the annual parade marking the return of swallows to Capistrano.

Experience has shown that the best advertisement the program can have in any area is a successful adoption. After the first animal is brought to a neighborhood or town, the good news spreads. Soon, friends of the adopters... and friends of those friends...are writing to BLM to learn more about the adoption program.

Monitoring the thousands of adopters proved difficult in the past when people were permitted to take as many animals as they thought they could handle. Some adopters apparently had commercial motives in mind, in spite of Federal laws to the contrary.

Henry Newborn and his horses work with a harrow on his farm near Sacramento. Middle horse was once wild.

Investigation and possible prosecution continues in some of those cases. Meanwhile, a ban has been placed on adoption of more than four animals a year unless the Secretary of the Interior approves.

But, there is a success story involving 40 horses that should be included here. It involves the famed Assateague Island off the coast of Virginia.

Americans for decades have read about the annual wild pony roundup and sale conducted by the Chincoteague, Virginia volunteer fire department. Allowed to roam free on Assateague Island, the ponies have been rounded up each year since the 1920s and led in a swim across a channel to the town of Chincoteague where selection is made of those to be sold.

In 1975, the historic event was threatened when disease swept the wild pony herd. Vigorous management of the remaining ponies, and a 1977 infusion of 40 wild horses from extreme northwestern Nevada, saved the tradition.

Dr. Leroy Johnson, veterinarian for the Assateague herd, says the Western range horses "have settled in nicely now." When they first arrived, "they were skinny. You could count their ribs, and their hip bones were sharply defined. It must have been slim pickings for them out West. At first, the horses kept running through the fences. They had to adapt to life on an island.

They were indeed from tough country. In the Buffalo Hills near their original home, more than 100 horses died of starvation on the open range during the third year of drought that marked the disastrous winter of 1977-78.

For those that went to Virginia, life is easer in even a "hard" winter. "The wild ones are doing fine," Dr. Johnson says. "Wild horses are used to scrounging, to really work to find their own food."

Next door to Virginia, at Longstretch Youth Home in western Maryland, wild boys and wild horses are being combined in a setting of love and concern, and both are coming out of the experience a little more tame and a lot better able to get along with others.

Longstretch was founded in 1972 by Bill Platter who left a State job as a social worker at a boys' forestry camp to begin his private, nonprofit rehabilitation effort for wayward youths. The State-licensed home offers vocational programs for the 13 to 18-year-old boys in agriculture, auto mechanics and horsemanship. Especially popular is the horsemanship program using wild horses obtained through BLM's Adopt-A-Horse Program.

Platter says, "For some of the aggressive kids, the confrontation with a wild horse is the first time they have ever met their match. Quite frankly, though, they are usually good at handling the animals." He is positive about what horsemanship can do for a boy and is particularly proud when he tells about one youth who won fourth prize in a Statewide competition at the Maryland State Fair and another who received a riding-master degree from West Virginia's Meredith Manor and is now aiming for the U.S. Olympic Equestrian Team.

Across America, people enjoy the fruits of the adoption program. Stories conveyed to BLM offices depict enthusiastic new wild horse and burro keepers.

From Nebraska—"She has turned into a real nice horse. My kids take her to roping club and all."

From California—"My mustang (Blue Dawn) has turned out to be a good riding horse. She's gentle and really responds well."

From Michigan—"We would like to urge anyone considering adopting these animals (burros) to be sure they have the room, patience, time, experience and knowledge before they make up their minds. We have never regretted the move and are awaiting a call to make a trip out to also get some of the wild horses.

His former 4-H leader and uncle helped Brian Creager of Ogden, Utah, turn "Mustang" into a success story. Wild Horse Organized Assistance, a supporter of BLM's adoption program, brought Brian and 'Tang together.

From Utah—"We spent many hours teaching her to wear her halter, to lead and to trust us. She is very intelligent and we can truthfully say she is a wonderful addition to our family."

From Georgia—"She (Amber) is still wild, but is getting better. She will come up to me and take a carrot, sugar cube or cookie out of my hand."

From Nevada—"She has grown to be a beautiful golden palomino, perfectly marked. She has a personality you could write a book about . . . very sensitive and spoiled rotten!"

Interest in expansion of the Adopt-A-Horse Program continues to grow. Americans, willing and wanting to share in this personal benefit from a public program, seek to enjoy the responsibility for maintaining a part of the Old West heritage of our Nation and its public lands.

For a horse or burro, adoption means the promise of a new home and easier life. But the real beneficiary is the land. Adoption of a horse means less competition for forage, and a change for better production and management of America's public lands.

Information on Adoption

Persons interested in adopting a wild horse or burro may obtain information on the program by writing: Adopt-A-Horse, Dept. 634H, Consumer Information Center, Pueblo, Colorado 81009.

Free materials include a how-to-adopt brochure, a pamphlet on horse care, and an application blank. The completed application should be mailed to Adopt-A-Horse, Bureau of Land Management, Post Office Box 25047, Denver, Colorado 80225.

ADOPT-A-HORSE RULES TIGHTENED

New regulations set criminal penalties for persons who abuse adopted animals.

Stringent and far-reaching new regulations now govern the Bureau of Land Management's wild horse and burro program.

The regulations apply to wild, free-roaming horses and burros in custody of individuals under the Adopt-A-Horse Program and those on public lands managed by BLM. Unless they stray from BLM-managed lands, animals on other Federally owned lands are subject to legislation specifically pertaining to those lands, such as elements of the National Park System and the National Wildlife Refuge System.

The regulations took effect on January 28, 1980. They include prohibited acts relating to inhumane treatment, commercial exploitation and other abuses of wild horses and burros following adoption through BLM's Adopt-A-Horse program. Violators are subject to a maximum fine of $2,000 or one year of imprisonment, or both.

Procedures for indviduals, organizations and government agencies to obtain title to adopted animals, after one year of proper care, are also announced in this final rulemaking. When ownership is transferred from the Federal Government to an adopter, horses and burros will lose their legal wild, free-roaming status.

The final regulations also include new procedures BLM will follow in its protection, management and humane treatment of wild horses and burros on the rangelands and during capture and placement through the adoption system.

The regulations implement amendments to the 1971 Wild Free-Roaming Horse and Burro Act which were contained in the Public Rangelands Improvement Act of October 1978.

Illegal acts against wild horses and burros in the past were confined to unauthorized removal from the public lands, and their slaughter, harassment, sale, or conversion to private use or into commercial products. These prohibited acts have been expanded to include:

—Inhumane treatment following adoption. Inhumane treatment is

defined as "causing physical stress to an animal through any harmful action or omission that is not compatible with standard animal husbandry practices; causing or allowing an animal to suffer from a lack of necessary food, water or shelter; using any equipment, apparatus or technique during transportation, domestication or handling that causes undue injury to an animal; or failing to treat or care for a sick or injured animal."

—Abandonment of an adopted wild and free-roaming horse or burro without making arrangements for food, water and shelter;

—Destruction or alteration of an animal's official identification mark;

—Use of an adopted animal for commercial exploitation or bucking stock;

—Failure to notify BLM within seven days of the death of an adopted animal;

—Failure to make a diligent attempt to capture an escaped adopted animal;

—Failure, upon written notice, to produce an adopted animal for inspection;

—The sale, directly or indirectly, of an animal (or its remains), which has not lost its status as wild and free-roaming;

—Acceptance for slaughter or destruction of a horse or burro bearing an official BLM identification mark and not accompanied by an official certificate of title;

—Failure by the accepter of a horse or burro for slaughter or destruction to retain for one year the certificate of title to the animal.

Until passage of the Public Rangelands Improvement Act (PRIA), adopted wild horses and burros remained wards of the Federal Government for their lifetime. PRIA now permits BLM to transfer title for up to four animals a year to adopters who have provided one year of humane treatment and care. The regulations specify that applicants must be of legal age in the state where they live, and the official BLM application for transfer of title must include a written statement by a licensed veterinarian certifying that proper care has been provided during the preceding year.

Title may be obtained to horses and burros adopted since December 1971.

The regulations also implement the provision of the Public Rangelands Improvement Act that limits the number of animals a person can adopt in a year. The maximum is four, unless an authorized BLM officer justifies, in writing, that the applicant is capable of humanely transporting and caring for additional animals.

Going beyond setting regulations to protect wild horses and burros placed in adoption, the rulemaking sets a new policy for BLM in its on-the-ground management of the animals. In the future, wild horses and burros will be considered comparably with other resource values in the development of resource management plans, and the animals will be allocated an appropriate portion of the available forage. The presence of one or more animals qualifies wild horses or burros for consideration in the multiple-use planning for a particular area.

Inventory and planning are among other management areas addressed in the regulations. As a basis for making its management decisions, the Bureau will maintain a current inventory for each area where a herd exists.

The inventory will estimate animal numbers, productivity, sex ratio, and age structure. Using BLM's multiple-use planning system and information developed from the inventory, appropriate actions needed to achieve proper population levels will be determined. Where rangelands are seriously deteriorated from overpopulation, excess wild horses or burros may be removed without this inventory and planning process.

In determining overpopulation, appropriate management levels, and animal population control methods, BLM must consult with a wide range of individuals and government agencies. These include th U.S. Fish and Wildlife Service, State wildlife agencies, individuals recommended by the National Academy of Sciences, and other BLM-selected persons with scientific expertise or special knowledge of wild horse and burro protection, wildlife management and animal husbandry.

The order and manner in which excess and problem animals will be removed from the public lands are established in the regulations. Old, sick, or lame excess animals will be humanely destroyed; additional excess animals for which a demand exists will be humanely captured, removed, and placed in adoption; additional excess animals for which there is no adoption demand, and for which relocation to other public lands is not practical, will be destroyed in the most humane manner possible. Where a BLM officer finds it is not practical to capture and remove excess animals for adoption, he or his authorized agent may humanely destroy the animals.

Problem animals will be removed and disposed of in the same manner as excess animals, including the relocation or return to the public lands. Problem animals are wild horses and burros that threaten the safety or welfare of persons, wildlife, livestock, or property; or those that have an infectious disease or are seriously ill.

Before wild horses and burros are relocated to a different area of the public lands, a written determination must be made by the Bureau that the action meets the requirements of the Bureau's resource management plans and adequate forage exists for the relocated animals.

Until title to an animal has been transferred from the Federal Government to an adopter no consideration can be received for the carcass.

Standards for transporting wild horses and burros over long distances are set in the rulemaking: transportation shall be under humane conditions and, unless otherwise approved by an authorized BLM officer, limited to 24 hours in transit, followed by a minimum of five hours of on-the-ground rest with adequate feed and water.

TRAITS OF PRIMITIVE HORSES MARK WILD HORSE HERD

BLM wild horse specialist traces markings of secluded herd in Oregon to the ancient Tarpan.

"This road's no interstate, grumbles Bill Phillips as he downshifts. "But it ain't terribly bad. Just a couple more fords and a biddy four-foot ledge and we'll be there."

The truck moves on gingerly, following the ruts between sagebrush, across the July-browned hills. During one of the fords, the engine coughs and falters. "C'mon Dodge, don't quit on me here!" Phillips hollers. Obediently the Dodge kicks in and lunges forward. "Only today and tomorrow, Dodge, then I'll run you in and get you fixed," he promises.

Phillips, the Dodge, and a horse named Baldy in the back of the truck are making their way across a road in the dingweeds of southeastern Oregon. This particular road, rock-strewn with erosion ruts 15 inches deep in places is indeed no interstate. Phillips is its only regular user.

"Nope, you're not likely to see too many folks out here. Course, in hunting season some come back here since there's deer up there," he says, gesturing to the left towards a ridge.

"But I'd allow that we're the only people up here today." Deer aren't the only inhabitants of this handsome high desert country on the north shoulder of Steens Mountain along the east side of Kiger Creek. Antelope are likely to dart out from under juniper trees at any turn in the road, and coyotes are common, too. There are more jackrabbits than anything else. Birds—lots of them—sing, warble, hoot and caw over the rushing sound of the wind, which blows south and steady this time of year.

There are also wild horses, and wild horses are the reason behind Phillips' driving a road that looks like footage from the Apollo moon flight cameras.

Fords and ledges safely behind, Phillips scans the area. The rig is parked at the foot of a wash that broadens into a plain several miles wide. A small streambed, dry at this time of the year, leads to the top of a ridge. Steens Mountain, still with a wisp of snow on top, peers over

A young foal with pink coloring, a characteristic of the Tarpan, on the East Kiger range.

Characteristics of the Tarpan include a dorsal stripe, two-toned mane, and grulla coloring as seen here on a Tarpan owned by Ellen Thrall of Griffin, Georgia, who keeps the American Tarpan Registry.

the ridge as if to keep watch on what's going on below.

"I guess we're here," Phillips says, "I figure on the horses being way over on the backside, about as far from here as they can be. Didn't see 'em comin' in."

"I'll saddle Baldy, sit you under a juniper tree and run 'em by you," he predicts. "I'll put horses right in your *pocket*."

Two miles to the top of a ridge, three hours of waiting, and then it comes. A dun colored stud with a witch's knot of hair thunders down a draw and up on the ridge. After him follow nearly three dozen wild horses, running by the juniper tree, looking wary, looking proud. They're a little dusty, a little unkempt, but possessing a sort of dignity. In two minutes it's over, the excitement, the sounds, the sight. Except for the songbirds and buzzing of insects, the ridge is quiet again.

And Bill Phillips, he put those horses right where he said he would.

Around the Burns District Office, Bill Phillips and the horses on East Kiger are usually mentioned in the same breath. "Bill and the horses . . ." people might start a sentence and immediately it's known which Bill and which horses. It's all natural, like snow on Steens Mountain in the winter, and the Silvies River flooding over in the spring.

"Them horses *are* Bill's horses," one friend put in succinctly, if not poetically.

So the cast of the story is set. Leading roles are given to Willard (Bill) Phillips, range conservationist in the Bureau of Land Management's Burns District, and the 35 or so wild horses in the East Kiger herd. Supporting roles go to Baldy, Phillips' beloved 21-year-old horse, and Dodge, Phillips' not-so-beloved truck.

At the heart of the story is Phillips' effort to gain special management for the East Kiger herd that will preserve certain markings and characteristics of the animals. Why? Because he believes these features link the East Kiger herd to Spanish mustangs and their ancestors, the primitive European horses. Bill Phillips will tell you this, flat out, with no apologies, despite the common belief among horse enthusiasts that bloodlines to the Spanish horses are so diluted as to be non-existent. What does Phillips say to that? Listen:

"Every domestic horse we've got has a wild ancestor someplace," answers Phillips. "Granted, the percentage of the Spanish blood left in the herd is small and it's hard to tell exactly what their background is. But at least they have the color, markings and size. Of course, not having pure Spanish blood is all the more reason to manage them for those characteristics, so they won't be lost."

But the horses. What kinds of markings and characteristics are found in the Kiger herd?

These are explained in a research report Phillips recently wrote on primitive horses and the unusual markings of the Kiger herd:

There are two races of true wild horses left today, the Mongolian and the Tarpan. A few small herds of the Mongolian are reported along the Russian and Chinese border. The Tarpan is extinct in the wild, but through selective breeding, exists in some preserves and zoos.

From these two wild horse species, other more common primitive—or native—horses have inherited traits. The Sorraia, the native pony of Spain, inherited traits of the Tarpan, such as its usual dun color, a black eel stripe down the center of its back, and zebra markings on the legs. These markings were passed on to those

A wild horse gathered by BLM and since returned to the East Kiger Herd exhibits the characteristics of the Tarpan.

Spanish mustangs with the greatest amount of primitive blood. Other Spanish mustangs showed greater influence of the Arabian and Barb horses.

A number of the horses on East Kiger have some or all of these primitive markings. A dorsal stripe runs from the tail up the middle of the back and into the mane, and sometimes, there are shoulder stripes or zebra stripes on the legs. Ears are frequently dark brown or black on the outside with interiors being lighter with dark borders.

Some are dun colored and some are grulla, varying from light to dark. Foals are pinkish or salmon color for a few weeks before taking on their adult colors, according to Phillips.

Characteristically, they tend to be smaller than most domestic horses, with broad backs. Some have two-toned manes. About 40 of the 4,000 horses passing through the Burns wild horse corrals since 1974 have had some of the primitive markings or characteristics.

The Tarpan in the wild did not become extinct until 1880, Phillips reports. This was 361 years after the Spaniards landed horses on the mainland of North America. The chance of the Spanish having brought considerable numbers of horses with Tarpan-like characteristics to the North American mainland are excellent.

There are a limited number of Sorraia horses still left in Portugal and Spain, but for the most part these horses are gone. Phillips believes that the gene pools of the Sorraia have had a better chance of survival in remote sections of the western United States than on the European continent where great changes have occurred in horses over the past several centuries.

Horses are more than an occupation to Bill Phillips. "I studied horses a little in college. Even before than, when I was a kid, we'd always be getting horses. Some of them had primitive markings too. We used to have a mare about 750 or 800 pounds, and talk about stripes! She looked almost like a zebra. Never could get her broken, though.

"Course, I didn't get into studying them in much detail until we got into gathering these horses."

Gatherings started in 1974. BLM had been directed by Congress to manage wild horses as a rangeland resource in the 1971 Wild-Free-Roaming Horse and Burro Act. Part of the law provided for rounding up and allowing private adoption of horses in areas where surpluses existed. One such area was Beatty Butte, an arid sagebrush-dotted hump rising to nearly 8,000 feet from the south Oregon desert floor. Horses gathered from Beatty Butte were to be taken to Burns for adoption by private citizens through BLM's "Adopt-A-Horse" Program.

By the time the wild ones from Beatty Butte arrived at Burns, Phillips was already keenly aware of the primitive markings.

"Some of the first horses we gathered had dorsal stripes, and when we got more from Riddle Mountain, I noticed there were some grullas with dorsal stripes."

Although only a few of the animals passing through Burns had the markings, that was enough for Phillips. He put the crews at the corrals on alert for other horses with the features.

"When these came along from Beatty Butte, I was gone but I had the crews and Ron Harding (the district wild horse specialist) pretty well zeroed in. We made sure our management plans called for keeping those dorsal striped horses in one herd."

A home range for the horses was needed. It was decided that the

East Kiger area was best suited for the herd.

"Kiger's an area where we can pretty well keep an eye on them. It's not a great big area, but it just about fits the numbers."

The horses were taken to East Kiger, released, and have been faring well ever since.

Now these wild horses have their area in the rugged country of southern Oregon. A nice niche left for them by man. The first American wild horse didn't have to work nearly as hard to find a place to live. It had the whole continent to choose from.

Introduced by the Spanish, prized by the Indians, the Mustang herds probably got their start when animals from both cultures escaped and banded. Over the years their numbers were boosted, and Spanish bloodlines consequently diluted, by other escaped or released stock owned by settlers.

"As I look at it, most of the horses in the western United States today have some of the Spanish blood in them. Look at the homesteaders. They brought their horses out of Texas, Oklahoma and Kansas and that's where the largest number of mustangs were," Phillips says.

He stops talking, perhaps with the realization that he's just made some sort of speech. But one last sentence falls before the talk shifts to other things.

"Just because you say they were redomesticated doesn't mean they don't originally come from Spanish horses."

For Bill Phillips, that says it all.

Evening at Burns, midweek. Clouds have been blowing over regularly the previous two days, dark and menacing. Weather forecasts called for thunderstorms, and ground winds blew hard, maybe 30 miles an hour. But the weather breaks and the sky is turning a dark blue as the night creeps in.

He's asked what is to become of those animals with the primitive markings in the East Kiger herd.

"I don't know what their future is," Phillips says slowly. "But the herd we have, we plan to manage strictly for horses with those markings."

He says that the Kiger herd will likely be thinned again in 1980. Only the horses without the distinctive markings will be gathered and adopted. In the future, when the horses with the markings become more numerous, a second herd will be established on the range at nearby Smith Creek.

"I'd like to see BLM expand the preservation of these horses, without getting into wholesale production of them. I would like to see several herds of them in different States." Phillips says.

"To me, the wild horse, as described by law, is not an endangered animal. But this particular kind of horse that resembles the true wild horse—or at least a step back in time—is unique. If we change the bloodlines, this kind of wild horse will be lost forever."

Phillips may be the most well read employee in the entire Bureau of Land Management when it comes to horses. He has volume after volume on the animals, and is always seeking to expand his library. Working for BLM gives him the chance to work with horses, and that fact had no small part in his decision to join the agency 21 years ago.

"There's not much else I'd rather do than be working with wild horses," he says. "That's one of the reasons I came to work for BLM.

Protecting the horses is important to Phillips, and he considers it urgent to do so now. "A conscientious effort must be made *now* if these types of animals are to be preserved," he wrote in his study paper. "If this is left to chance, it will not happen . . . (the public) has a right to expect the preservation of unique strains as part of management."

SCIENTISTS STUDY HABITS AND HABITATS

National Academy of Sciences and university researchers seek ways to take the guesswork out of managing wild horses and burros on the public rangelands.

A 13-member committee was named by the National Academy of Sciences (NAS) to direct the research on wild horses and burros as mandated by the 1978 Public Rangelands Improvement Act (PRIA). The committee provided the Bureau of Land Management and the Forest Service a research outline last fall, and the Bureau will issue contracts this spring to individuals recommended by the NAS to carry out the actual research studies.

The purpose of the research is to gain additional knowledge of wild horse and burro population dynamics and their interrelationships with wildlife, forage and water resources, and to assist BLM in determining what constitutes excess animals on the public lands. Due to be completed and submitted to Congress by January 1, 1983, the NAS study specifically will:

- develop information on the biology of wild horses and burros;
- identify principles and procedures for managing populations of wild horses and burros in accordance with PRIA;
- determine the availability and use of forage and water resources and dietary and habitat overlaps in relation to the number of wild horses and burros that a range can sustain;
- provide information that will help the agencies determine what population levels should be considered excess.

Scientists fit a wild horse with a white collar to monitor herd composition and movement patterns.

Chaired by Dr. Frederic Wagner of Utah State University's College of Natural Resources, members of the NAS Committee are: Attorney Gail L. Achterman, Portland, Oregon; John L. Artz, Department of Renewable Natural Resources, University of Nevada; Dr. Walter H. Conley, Department of Fisheries and Wildlife Sciences, New Mexico State University; Dr. L. Lee Eberhardt, Battelle Memorial Institute, Kennewick, Washington; Dr. Warren E. Johnston, Department of Agricultural Economics, University of California at Davis; and Dr. John Malechek, Department of Range Science, Utah State University.

Also, Dr. Patricia Moehlman, Department of Zoology, University of Wisconsin; Dr. Ulysses S. Seal, Biochemist, VA Medical Center, Minneapolis; rancher J. W. Swan, Rogerson, Idaho; Dr. Stephen R. Kellert, School of Forestry and Environmental Studies, Yale University; and Francisco J. Ayala, Department of Genetics, University of California at Davis. Due to other commitments Gerald F. Gifford, Chairman of Watershed Science

White collars make "marker animals" easier for researchers to spot from a distance.

Unit, Utah State University, has resigned from the committee.

Aside from the NAS-supervised study, BLM is presently funding two other research studies on wild horses and burros. A two-part study being conducted at Eastern Montana College is examining reproductive biology and fertility control of wild horses. Thus far, researchers have determined that the social behavior of wild horses is such that only a few dominant stallions are responsible for most of the breeding.

In addition, researchers have discovered two compounds that reduce spermatogenesis to zero in domestic ponies without affecting normal activity. The duration of the reduction has yet to be determined. Field testing of a limited number of wild horses is now underway.

A study being conducted at Washington State University is to develop an immobilization drug for use on wild horses. The development of an immobilizing drug will aid in the capture and handling of wild horses. In order to be useful to BLM, immobilization drugs developed as a result of this research must have a wide tolerance level by wild horses, must be readily available to BLM employees, and must be such that they can be administered humanely. These requirements are built into the research contract.

A team from the U.S. Department of Agriculture's Eastern Oregon Agricultural Research Center is studying the food habits of the wild horse. The team is attempting to pinpoint the number of wild horses that can be sustained on the rangelands of Oregon and the amount of competition that might occur with wildlife and domestic livestock.

Forage habits of the wild burro have not been overlooked in research projects. Arizona State University researchers, on a project completed in 1978, developed a method to identify the percentage of different forage plants in the wild burro's diet, and the percent of utilization of those plants by burros.

After 500 years in America, used by Indians and pioneers, then relegated to the ranks of nuisance on the rangelands, the wild horse and burro can now look forward to a chance to begin a new life and status as a natural resource. Research findings will help both the animals and the rangelands they and others use. These studies will assist in management of the wild horses and burros by providing data for decisions that have at times been based on incomplete information.

YEARS OF REFORM

BLM plugged the loopholes after abuse cases focused national attention on the Adopt-A-Horse Program.

The man, whom we will call "Mr. A," was described as "a nice enough fellow" by the people in the northwest town who knew him. A quiet sort, he was born in the southwest and moved to the northwest as a youngster. This drifting from one cowpunching job to another was just an interim occupation for him. His real ambition, he told one BLM employee, was to save enough money to buy his own spread and begin ranching. Until then, there were always jobs as a hired hand, driving trucks or whatever else.

He really seemed to have an interest in wild horses, and he applied for adoption of more than 100 horses over a two-year period. Because he had access to many acres and seemed able to care for the horses, he received 109 animals through the Adopt-A-Horse Program.

A man with ambitions of ranching interested in adopting wild horses seemed natural enough, and so it wasn't until he kept putting off a simple compliance check by BLM District employees that suspicions were aroused; the adopter's affinity for horses might not have been his prime motive for adoption of the animals. Attempts to contact the adopter by letter, phone and in person were fruitless. The case was turned over to a BLM State Office and a special agent assigned to it. Three weeks later, in December 1978, the adopter was arrested in California on charges that he had sold $25,000 worth of wild horses to processors.

Mr. A was convicted in March 1979, and sentenced to 18 months imprisonment. He was also placed on five years probation and ordered to pay BLM the money he received.

Mr. A's case was not the only Adopt-A-Horse Program abuse investigated in 1978 and 1979. A California man was convicted of selling 25 horses for slaughter, and a Missouri man allegedly sold nearly 150 horses to a Texas slaughtering plant. (The Missouri man died before the case was brought to trial.) A resident of Richland, Washington also was convicted under the 1971 Wild, Free-Roaming Horse and Burro Act. He pleaded guilty to selling at least one horse for commercial processing early in 1979. Other abuse cases ranged from neglect to slaughter, and BLM continues to investigate cases of suspected abuse.

Horse abuse cases focused national attention on the Adopt-A-Horse Program and illustrated weaknesses in legislation prior to 1978. Before limits were placed on

U.S. wild horse receives its lifetime identification, a painlessly applied, distinctive Alpha Angle freeze-mark beneath its mane.

All wild horses and burros adopted since April 1, 1978 bear the Alpha Angle freeze-mark.

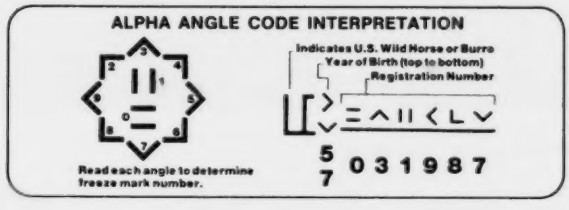
the numbers a person could adopt and with horses bringing 25 cents or more a pound from commercial processors, the door was wide open for speculation in horses.

In light of these cases, a BLM investigatory task force examined all multiple adoptions of 10 or more animals. The team accounted for 61 percent of those horses as being alive and in fair to excellent condition. This contrasts with the claim of one national television program that 90 percent of adopted animals were being slaughtered or the 50 percent figure that is frequently used by some horse protection groups. The figures derived by the BLM fact-finders don't include the small number adopters, whose treatment of the animals is generally thought by BLM horse and burro specialists to be much better.

BLM was caught off-guard by the possible extent of horse abuse cases, but steps were rapidly taken to ensure that such large-scale exploitation will not occur again. Some of the measures to plug the loopholes in the law and procedures include:

- Passage of amendments to the Wild Horse Act of 1971 found in the 1978 Public Rangelands Improvement Act (PRIA), which was strongly supported by BLM. PRIA stipulates that a person may annually adopt no more than four animals. Even before the passage of the law, BLM Director Frank Gregg ordered that no more than five animals be adopted by a person each year.
- More stringent screening procedures for adopters and revision of the Cooperative Agreement between BLM and the adopters.
- Institution of "freeze-marking," a painless yet permanent method of identifying individual wild horses and burros rounded up on public land. Law enforcement has been hampered in the past by a lack of identification of animals believed to have been adopted.
- Increased emphasis by the Department of Justice on prosecution of crimes against natural resources and a reorganization of the Land and Natural Resources Division of the Justice Department.
- New regulations providing criminal penalities for "inhumane treatment." The regulations specify that inhumane treatment, failure to produce animals for inspection when requested, alteration or destruction of freeze-markings, abandonment of the animals without making arrangements for food, water and shelter, and commercial exploitaton are prohibited. Maximum penalties are a $2,000 fine, a year imprisonment, or both. Prior to these regulations, inhumane treatment of adopted animals had to be prosecuted through State humane laws.
- A Bureau-wide strategy for responding to reported abuses and conducting spot checks is being developed. Additionally, cooperative agreements with local humane organizations to assist in compliance checks are being negotiated. One agreement with the Utah State Humane Society has already been enacted.

Despite these improvements, BLM is still handicapped in the effort to investigate adoption abuses. Only 19 special agents are available nationwide to check into reports of adoption wrongdoing. And wild horses and burros are only one of many investigative duties assigned to the officers.



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AMONG THE RICH AND VARIED RESOURCES of the public lands that must be managed and utilized for economic and social benefits for the Nation as a whole are range, recreation, timber, minerals, watershed, wild horses and burros, wildlife and fish, and natural, scenic, scientific and historical values.

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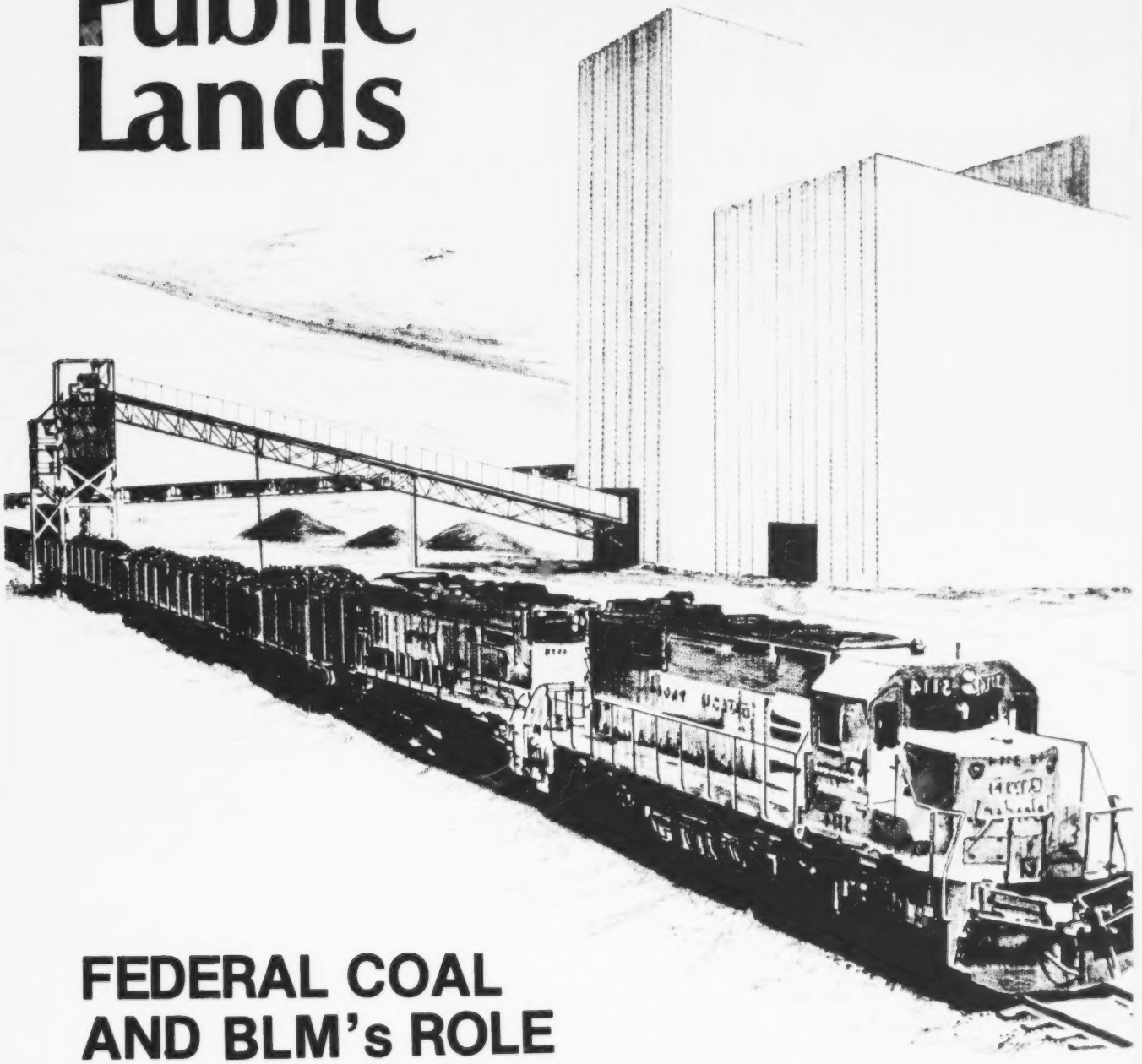
Our Public Lands

Spring 1980



FEDERAL COAL AND BLM's ROLE

(See Page 3)

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U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

As the Nation's principal conservation agency, the Department of the Interior has basic responsibility for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

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Connie Babb, Editor

Philip E. Kromas, Art Director

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Federal Coal and BLM's Role

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Office of Public Affairs

Myra Musialkiewicz
Office of Coal Project Development

With the exception of the wheel, who would have thought that something used 3,000 to 4,000 years ago would have any special significance in this energy-conscious age? The present day energy crisis has given coal that special significance. The constantly rising prices for energy and products made from energy substances are a reminder of our dependence on foreign energy sources.

Such was not always the case. Early in our history energy was derived in large measure from water and animal power. But less than 200 years ago, the use of coal fueled our industrial revolution and subsequent economic growth. Because of coal, railroads and the steel industry were able to develop at a rapid pace and large scale generation of electrical power became possible.

Then came oil and gas. Consequently, coal, which provided over half of the nation's energy until the mid-1940's, declined in importance as an energy source. By 1977, because we had more convenient and less expensive oil and gas and because of environmental problems associated with mining and burning coal, only 18 percent of the nation's energy was supplied by coal.

Today, the tide is again changing. Our nation is now producing and using more coal than ever before. Coal is viewed as the energy source that will bridge the gap from our dependence on foreign energy sources to new energy initiatives and, ultimately, energy independence. National coal production has increased from 552.2 million tons in 1971 to 768.67 million tons in 1979.

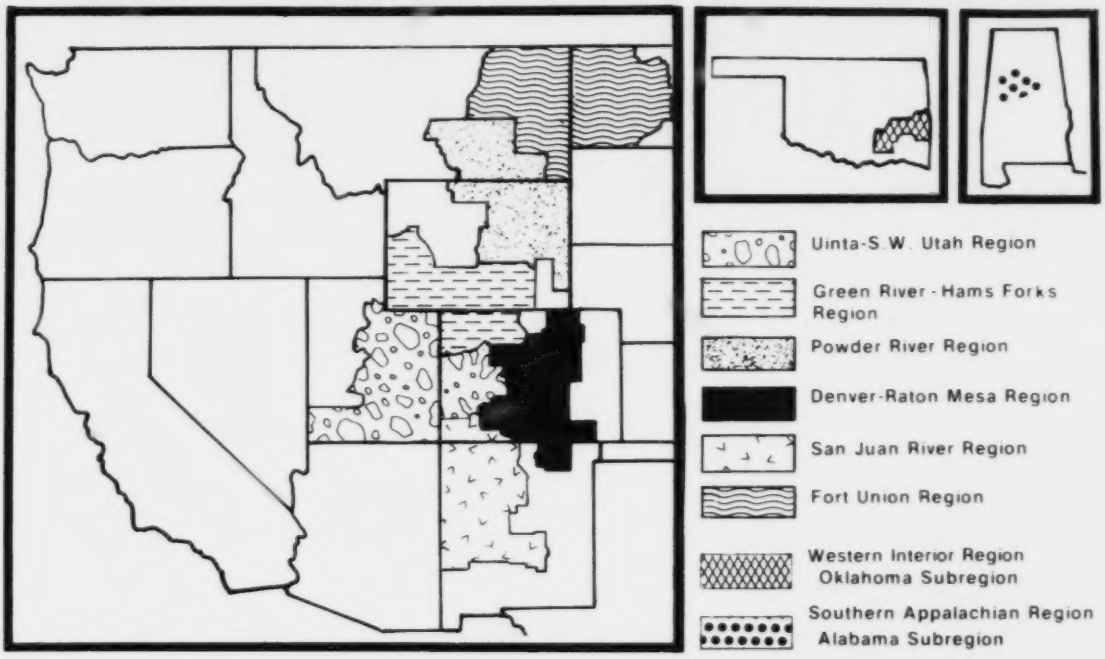
President Carter has repeatedly called for increased coal production—for as much as 1.19 billion tons by 1985—to break the tie that binds the U.S. to foreign energy suppliers. There are two reasons for this call for increased production. First, the U.S. has enough easily accessible coal deposits to satisfy our present energy needs for the next 300 years. Second, new methods have been developed so that coal can be mined and burned without the coal dust and soot characteristic of earlier systems, and strict new reclamation standards will avoid the scars formerly felt by coal mining activities.

Since the Federal Government has management responsibility for Federally owned coal underlying 75.6 million acres—roughly one-third of the nation's coal supply—the government, through the Department of the Interior, has a very important role to play in achieving increased domestic coal production. This is particularly important in the Western United States where the Federal Government owns 60 percent of the coal and, because of its location in relation to other sources of coal, actually controls the development of an additional 20 percent.

Although the Federal Government owns over 200 billion tons of coal, most of it is located in the six key western coal-producing states of Colorado, Montana, New Mexico, North Dakota, Utah, and Wyoming. Federal production in these states accounted for 71 percent of the production of all western coal in 1977. Other significant amounts of Federal coal are located in Alabama, Oklahoma, Kentucky, Washington, and smaller amounts in other states.

Congress has authorized the Secretary of the Interior, through the Bureau of Land Management (BLM), to lease Federally owned coal. Although the Secretary has had this authority since the passage of the Mineral Leasing Act in 1920, it wasn't until the 1970's that the Department began seriously looking at the Federal coal resource as a means of increasing domestic

Federal Coal Production Regions in the United States: November 9, 1979



energy production. And it wasn't until 1979 that the Department had the opportunity to implement a comprehensive Federal coal program that was free from serious legal challenges.

Prior to 1970, coal leases were issued on a case-by-case basis with little or no thought given to the need for additional leasing or to the environmental consequences if those leases were developed. A 1970 study prepared by the BLM revealed that approximately 91 percent of the acreage under lease was not producing coal. Consequently, a complete moratorium on the issuance of new coal leases was instituted in May 1971 and lasted until February 1973.

The moratorium was ended with the adoption of a two-phased coal policy. First, leases were issued when a prospective lessee demonstrated that the coal was needed to maintain an existing operation or that the coal was needed for production in the near future. Leases that were issued under this policy required the lessee to begin development in three years with the understanding that all mined land would be reclaimed.

The second phase was the development of a program that would consider environmental impacts, be responsive to the demand for coal, and result in leases being issued where needed. In 1975, the Department issued a program-wide environmental impact statement (EIS) that served as the basis for the adoption of a new program in 1976. However, because a successful legal challenge was mounted against the EIS, the program never really got off the ground.

From 1975 to the fall of 1977 while the EIS litigation was being fought in court, the Congress as well as the President were taking steps that ultimately shaped the comprehensive Federal coal management program adopted in mid-1979. Since the late 1960's, there has been a growing concern over the environmental consequences of coal development, particularly by surface or strip mining. There was also the additional concern that Federal lands be managed to be responsive to all resource needs and uses while considering the effects on local communities.

Amidst considerable controversy over these issues, three important pieces of legislation were passed within a year's time—the Federal Coal Leasing Amendments Act of 1976 (FCLAA), the Federal Land Policy and Management Act of 1976 (FLPMA), and the Surface Mining Control and Reclamation Act of 1977 (SMCRA). These laws serve as the basis for sound management of the public lands and Federally owned coal resources.

Translated into real terms, BLM must prepare comprehensive land use plans that consider the economic situation of a given area, agricultural uses, the needs of

wildlife, recreational uses (existing and potential), water resources, as well as the potential for mineral and/or energy development whether it be uranium, oil, gas, coal, or any other mineral. If the decision is made to lease coal in an area determined suitable through the planning process, the coal must be sold by competitive bidding. This assures that the fair market value of the coal is received by the government. Once leased, the coal must be developed to achieve the maximum economic recovery of the coal. After the mining is completed, the mined area must be reclaimed as closely as possible to the premining state. While these are not all of the requirements, the end result is an environmentally sound, well-planned approach to balanced use of the resources on the public lands and to the acceptable development of coal.

This was, in essence, what President Carter told Interior Secretary Andrus to accomplish through Federal coal leasing. The President's 1977 Environmental Message contained clear direction to the Interior Department for leasing Federal coal—do it in an environmentally acceptable way, be sure it is compatible with other land uses, protect the rights of private surface owners, and be sure it responds with certainty to the nation's demand for coal.

Secretary Andrus began work immediately to do just that. A two year coal policy effort was initiated in mid-1977. However, in September 1977, a court order was issued requiring the Department to correct the inadequacies the court found to exist in the old 1975 programmatic EIS. With the exception of two very limited leasing criteria contained in the order, the Department was prohibited from carrying out any leasing activity.

With the President's direction clearly in mind, the Secretary negotiated a settlement to the lawsuit rather than pursue a costly and time-consuming appeal. In this way, additional leasing could be carried out to prevent the bypass of Federal coal by existing operations, to permit operators to meet existing contracts, or to maintain current levels of production. At the same time, the policy review was able to move forward and the inadequacies in the old EIS could be corrected by the preparation of a new program-wide EIS that would consider the Presidential and statutory directives that were issued after the 1975 statement.

In April 1979, after completion of the coal policy review, a new and comprehensive EIS was issued. For purposes of analysis, the country was divided into 12 coal production regions, eight of which contain significant amounts of Federal coal. (See map, page 4.)

Using the analysis in the final EIS, the Secretary announced, in June 1979, a new Federal coal management program designed to meet immediate needs for Federal coal in addition to leasing Federal coal to deal with our future energy needs. This program will ensure that, where there is a need for Federal coal, it will contribute to the vitality of the coal industry, it will help maintain reasonable energy prices to consumers, and it will be developed with minimal environmental damage. The program is flexible in terms of adapting to future changes in supply of, and demand for, Federal coal as a significant energy source.

How can a program operate to turn words into action and help solve the energy problem? A key factor in the Secretary's decision on the program is that, between 1985 and 1990, there will be an estimated annual coal production shortfall of about 41 million tons in three of the western production regions. To compensate, the Secretary indicated that lease sales will be held, initially in four coal production regions, during 1981 and 1982 with the objective of leasing approximately 1.5 billion tons of Federal coal. Considering the time needed to obtain an approved Federal mine plan and that it takes anywhere from four to seven years to get a mine into operation, production from these leases will fill in the gap caused by the anticipated shortfall. As leasing takes place in the remaining four Federal production regions in 1982 and 1983, coal will be made available to meet future coal demand.

Although competitive sales will be held between 1981 and 1983, this does not mean that these are the only sales that will be held. Regional lease sales will be held on a four-year schedule if the need exists. The program has several key components that assure flexibility to meet changing conditions.

The BLM is responsible for managing a vast amount of the nation's public lands and minerals—approximately 356 million acres of land as well as 840 million acres of Federal subsurface rights. These lands contain a variety of resources and are currently being used in a variety of ways.

Using the authority in the FLPMA and FCLAA, the best way to manage these lands and minerals is through comprehensive *land use planning* to determine the best use or uses. For this reason, land use planning is the first step in, and is, in essence, the backbone of, the federal coal management program. It ensures BLM's compliance with its multiple use mandate.

In the land use planning process, coal is not given special consideration nor does it receive less consideration than other public land resources. Within a given planning unit, all resources and potential uses of those resources are thoroughly examined to determine the acceptable uses within that planning unit. In planning units that contain Federally owned coal, a series of *unsuitability criteria*, a SMCRA requirement, is applied in the land use process. These criteria incorporate both statutory and Departmental policy for protecting significant resources and resource uses and are designed to determine the unsuitability or acceptability of an area for coal development.

Also included in the process is a *surface owner consultation* step. Those property holders whose surface overlies Federal coal are asked to express a preference for or against surface mining. In this way, the rights of those surface owners are protected and BLM has a clearer picture of where coal leasing is acceptable.

The coal within a planning unit is also assessed to determine its "development potential" (high, medium, or low). Only coal with a high or medium development potential will be considered for leasing. The result of determining the development potential of the coal, assessing its acceptability, and resolving other potential resource conflicts is an identification of areas that are acceptable for possible coal easing.

The location of new mines can affect the complexion and economy of near-by communities and the states in which the mines are located. The coal program includes an innovative element that permits direct State participation in the coal decision-making process. This direct State participation comes under the auspices of a regional coal team for each Federal coal production region. Each team consists of a member representing the governor(s) of the State(s) included in the region, a member representing the BLM director (serves as the team chairman), and the BLM State Director(s) from the State(s) included in the region. In this way, the final recommendations to the Secretary on leasing are based on advice from those who are best informed about the effects coal production will have on the local communities and the State(s). In addition, coal leasing can be planned to harmonize with State and local economic and community development goals.

Once the land use plans are completed and areas acceptable for further consideration for leasing are identified, the regional coal team begins its work to guide interagency working teams to locate potential lease tracts, to review the work team's analysis and rank the tracts, to make a recommendation to the Secretary on a leasing target for the region, and to identify alternatives for analysis in a regional lease sale EIS. This phase of the program is referred to as *coal activity planning*.

The activity planning phase begins by a call *for expressions of leasing interest* in those areas considered acceptable for further consideration for leasing. This call for expressions from small businesses and public bodies, the public, and the coal industry is made to obtain specific information on the areas where there is interest in Federal coal leasing. Information received from these expressions is merged with data developed by the Department, and potential lease tracts are *delineated* by the Geological Survey (GS).

Calls for expressions of interest have been completed in the Green River-Hams Fork, Uinta-Southwestern Utah, and Southern Appalachian (Alabama) Regions and expressions are now being sought for parts of the Powder River and Fort Union Coal Regions. By asking for expressions of interest in areas that are determined acceptable, those interested in Federal coal leasing can focus their attention on areas that do, in fact, have the potential for being developed. This saves time and money for both the potential lessees and the government.

Once delineated, the potential lease tracts are analyzed on a site-specific basis, i.e., the characteristics of each specific tract are identified and a report is prepared for each of the tracts. The tracts are also analyzed as a group to determine the possible cumulative impacts. Both the *site-specific and cumulative analyses* are used by the regional coal team to *rank* the tracts. The ranking is an indication of which tracts are more suitable for development and contain sufficient amounts of coal to meet the *regional leasing target*.

The regional leasing target is established by the Secretary of the Interior after analyzing the Department of Energy's coal production goals, seeking public comments and reviewing the regional coal team's recommendation. The leasing target is an indication of the amount of Federal coal that will be leased to meet the projected demand in the region for a given time period, taking into account that Federal coal, as well as private or State coal, will meet the total demand in the region. These targets are reviewed every two years to ensure that changes in demand are accounted for.

After ranking, tracts that are best suited for development and will meet the leasing target are *selected*. In addition, the regional coal team develops alternatives that will be analyzed in the regional

ESTIMATED 1985 PRODUCTION FROM EXISTING FEDERAL LEASES WITHOUT MINE PLANS (a)

COAL REGION	NUMBER OF LEASES WITHOUT MINE PLANS	RECOVERABLE RESERVES IN FEDERAL LEASES WITHOUT MINE PLANS (million tons)	RECOVERABLE RESERVES IN LEASES WITHOUT MINE PLANS LIKELY TO BE PRODUCING IN 1985 (million tons)	LIKELY PRODUCTION IN 1985 FROM LEASES WITHOUT MINE PLANS (d) (million tons/year)
Fort Union	16	(b)	(b)	(b)
Powder River	34	3,857	210	7.0
Green River-Hams Fork	23	262	204	6.8
Uinta-Southwestern Utah	152	2,638	700	23.3
San Juan River	24	303	254	8.5
Denver-Raton Mesa	8	(b)	(b)	(b)
Other Regions	54	256	46	1.5
Total	311	7,782(c)	1,710(c)	57.3

(a) Estimates based on March 1978 Department of the Interior review of existing Federal leases.
(b) Cannot be disclosed because of confidentiality requirements.
(c) Includes total recoverable reserves in mine plans in Fort Union and Denver-Raton Mesa Coal Regions.
(d) Assumes 30 year mine life.

Stripmining for coal in Montana.

lease sale EIS. The alternatives consider differing leasing levels (including the leasing target set by the Secretary) and varying combinations of the ranked tracts. Following public review of the draft EIS, publication of the final EIS, and a recommendation by the regional coal team, the Secretary makes a final selection of the tracts that will be offered and adopts the schedule for the competitive sale of those tracts.

But what happens in cases where there is an urgent need for Federal coal? The Federal coal management program provides for dealing with such cases. In designated Federal coal production regions where activity planning will or has taken place, applications are considered for lease if Federal coal would be bypassed when not mined as part of an existing operation or where there is a need for Federal coal to maintain production or to meet existing contracts. A maximum of eight years of reserves can be leased under this part of the program. Leasing under these conditions is not a substitute for the procedure required by the long-term leasing system. These leases are only to satisfy immediate needs. Once the long-term process is in place in all of the major Federal coal production regions, the number of leases issued under the "emergency" conditions is expected to significantly decline.

For areas outside a coal production region or within an eastern coal production region (outside of an activity planning area), applications for a lease will also be accepted. In these cases, there is no limit on the amount of reserves that can be leased.

In addition to the leasing components, management of existing leases, processing of pending preference right lease applications, and certain exchanges involving coal lands or bidding rights are other significant aspects of the Federal coal program. Of particular importance in managing existing leases is the requirement for *diligent development*. For those leases issued before the enactment of the FCLAA (August 4, 1976), development of coal in *commercial quantities* must begin before June 1, 1986, or the lease will be subject to cancellation and possible resale. For those issued after August 4, 1976, diligent development must begin within ten years of issue date. The requirement for diligent development of leases is a

direct outgrowth of the 1970 BLM study that identified the inequity between leased acres and production and it will ensure that the coal lease speculation, rampant in the 1960's, will not occur again.

Preference right lease applications (PRLA's), which are the result of coal discovered under a prospecting permit for an area where coal was not known to exist, will be completely processed by December 1984. These applications cover recoverable reserves. Considering environmental and legal questions, annual production potential could be as high as 250.8 million tons (assuming a 30-year mine life).

Under certain conditions, coal leases or coal lease applications may be exchanged for other mineral leases, lease bidding rights at another coal lease sale, or other Federal coal if the leases being exchanged are located in an alluvial valley floor. For exchanges, PRLA's, and existing leases, the unsuitability criteria and other planning requirements will be applied to determine if the area covered by the application is acceptable for coal development.

Developing this program, according to Interior Assistant Secretary Guy Martin who has primary responsibility for the program, was a monumental challenge to the Department. "Fortunately," Martin said, "there were a number of agencies with expertise in specified areas that made significant contributions to this effort. The states and the public were also a big help. Under the program, these agencies are given specific responsibilities as are the states, and information is actively sought from small businesses and public bodies for which there is a special set-aside program, from environmental organizations, industry groups, and from private land owners."

BLM has major responsibility for implementing the coal program. This responsibility includes preparing land use plans and, where Federal interests are not large enough to justify a land use plan, a land use analysis, both of which include surface owner consultation and application of the unsuitability criteria. BLM also participates in the selection of, and makes recommendations to the Secretary on, the tracts to be offered for lease, as well as preparing the analyses of those tracts and preparing the regional lease sale EIS's. In addition, BLM processes coal lease applications and carries out many of the actions relating to the management of existing leases.

In addition to BLM, the Geological Survey, the Office of Surface Mining, and the Fish and Wildlife Service carry out a number of the requirements of the Federal coal program. Additional responsibilities relating to Federal coal are carried out by other agencies outside of the Interior Department, particularly the Department of Energy, the Department of Justice, and the Forest Service in the Department of Agriculture.

The Geological Survey (GS) is responsible for estimating both the quantity and quality of Federal

Reclaimed stripmined land now used for grazing near Colstrip, Montana.

coal, preparing coal resource economic valuation reports for lands proposed for leasing, and providing technical background information for BLM's land use planning activities. GS also establishes known recoverable resource areas, approves the formation of logical mining units and exploration plans, and monitors production from Federal leases. In addition, GS operates the National Coal Resource Data System which is a computer-based information network that contains map data and resource figures.

The Office of Surface Mining (OSM) regulates surface mining and the surface effects of underground mining, approves state programs, and provides assistance to the states concerning implementation of those state surface mining programs as well as mining and mineral research institutions. OSM is also responsible for ensuring reclamation of abandoned mine areas. Both GS and OSM make recommendations for the approval of mining and reclamation plans which are necessary before mining can begin on a leased area.

The Fish and Wildlife Service (FWS) is responsible for surface mining studies relating to wildlife. FWS collects basic information for use in BLM's land use and coal activity planning and in OSM's regulation and enforcement activities and monitors coal-related activities to assess the impact on wildlife.

The Forest Service (FS), Department of Agriculture, also has land use planning responsibilities for lands under its jurisdiction. The Secretary of Agriculture may recommend stipulations to be included in the lease. He must approve the lease terms before a lease for land in a national forest can be issued, and concur in the approval of mining and reclamation plans for Federal leases on Forest Service lands.

Several areas of rulemaking responsibility for Federal coal were transferred to the Department of Energy under its 1977 Organization Act. Included is the authority to issue regulations to (1) foster competition for Federal leases, (2) implement alternative bidding systems for Federal leases, (3) establish diligence requirements for coal development of lands under lease, and (4) set production rates for Federal leases (i.e., the contribution that Federal coal will make to national coal production).

The Department of Justice reviews the coal holdings of the highest acceptable bidder to ensure compliance with the anti-trust laws and to be sure that a situation is not created that would be in violation of those laws. The Justice Department is provided the opportunity to review the BLM determination before a lease is issued.

For almost 10 years, there has been very little Federal coal leasing activity. What was learned during those 10 years was used to "put the puzzle together" and develop a program that is in the national interest for the future of coal.

Assistant Secretary Martin says of the program, "Federal coal development, rather than being seen as just another intrusion of Federal authority into the economic and social affairs of the West, is now expected to take place in a way that reinforces State government policies. I believe enough people have worked together over enough real and specific issues to be able to get beyond the rhetoric and actually put together a program that will work. These hard efforts have resulted in a Federal coal management program that can meet production goals, meeting the real needs of coal users, while protecting the many other interests involved."

Although additional Federal coal leasing will not fill a gas tank, the production of more coal will make more oil available so that our gas tanks can be filled.

BLM–Friend or Foe?

RON CASTILLO

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From overgrazing to wilderness-antelope fencing to clear cutting, the Bureau of Land Management is catching hell from nearly every spectrum of the public. BLM has become the most maligned agency of the 70s and seems destined to wear this crown of thorns into the next decade.

To me, the abuse is a raw deal for an agency trying to do a complex multiple-use management job on some 430-million acres of public land that until recently nobody gave a hoot about.

Perhaps the major problem facing this relatively young agency is overcoming a reputation of facilitating exploitation by mining and grazing users. This lack of credibility isn't justified today, but groups of wildlife and environmental types can't erase memories of the past, even when it is in their best interests to do so. This often leaves BLM sawing itself off on a limb without public support.

Despite valiant efforts to correct rangeland abuse—often in the heat of intense political pressure—this agency of the Department of the Interior is still accused of wilting before cowboys and miners who figure the public lands are theirs alone. In trying to effectively manage this largest segment of public land, BLM has only been able to eke out of Congress roughly one-half the budget of the Forest Service to manage nearly twice as many acres.

Nevertheless, there is basis for concern over BLM's past. Created in 1946 in a merger of the old Government Land Office and Grazing Service, the Bureau for many years merited the title "Bureau of Livestock and Mining." The reason was simply that nearly all laws BLM then operated under were directed toward consumptive uses.

The problem now is that all this has changed, but the public hasn't picked up the message and isn't supporting BLM on a host of critical issues.

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The new era for BLM began in the mid-1960s when Congress suddenly became aware that the public lands overseen by this small agency were more than mere "left-overs"—lands culled over by the Forest Service, Park Service, etc. They saw these lands as America's "Last Frontier" to be wisely managed for the future. As a result, Congress passed legislation to study and classify the lands.

Later, Congress moved again and passed a BLM Organic Act—the Federal Land Policy and Management Act of 1976. Although defeated five times in the House of Representatives by powerful special interest factions, this legislation finally changed BLM's role from one of land steward to land manager.

Another problem facing BLM is identity. Most of the agency's lands are unmarked and sprinkled between other land ownerships. In most western states, you can drive for hours through BLM lands and not know it. Unlike the Forest Service and Park Service, most of the lands are not in identifiable blocks. Adding to this dilemma is the fact that the Bureau can't settle on a name for its lands. They have called them public lands, national resource lands, and now are back calling them public lands again. This lack of identity and the stigma of mining and livestock control has hurt BLM with environmental and wildlife interests. The result has been only token support on key issues where sportsmen fail to see the forest from the trees.

An example was the recent game range controversy in which Secretary Morton wanted to place two game ranges (Kofa and Russell), under full BLM control with clear instructions to manage the areas for wildlife values. Fear struck a host of national organizations which lobbied the Secretary to reverse the decision—even though many sportsmen now fear this could eventually result in the game ranges (now refuges) being closed to hunting.

The lack of credibility is hard to understand when considering that, under BLM joint management, the Kofa desert bighorn sheep herd increased nearly 100 percent in some 35 years. In addition, BLM lands in Arizona boast 80 percent of the sheep population, with population levels either stable or increasing.

Another example is BLM's efforts to stop overgrazing. The key to solving this problem is to establish intensive grazing systems (rest rotation, etc.). In many areas, cattlemen, accustomed to doing as they will on public lands, are fighting "allotment management plans." Since controlled grazing systems also benefit wildlife, sportsmen should be taking the lead role in their sport. Unfortunately, grazing problems seem to bore sportsmen and BLM is left to fight the battles alone.

Nevertheless, there have been some major wildlife and environmental victories on the public lands. In Arizona, the first efforts to bring back the rare and endangered masked bobwhite quail were on BLM lands shut off from grazing. A similar project on the Arizona/New Mexico border provided critically needed habitat for the Mexican black duck. Fencing an area in the Arizona Strip to bring back desert bighorns and special designations like the Idaho Birds of Prey natural area are further examples.

A national fencing policy was developed by BLM in Wyoming to benefit antelope, while surplus bighorns could never have been furnished to other states had not the Wyoming Whiskey Mountain management plan been implemented.

Although the old Taylor Grazing Act of 1934 brought a degree of conservation awareness to public land management, BLM management, for the good of the resources, had to be practiced in subterfuge prior to passage of the Federal Land Policy and Management Act three years ago.

In ending an era where a cowboy could operate "like his daddy did," BLM bumped heads with many traditional users. This is especially true in provincial Nevada where BLM employees have actually been threatened. Again, sportsmen failed, for the most part, to get involved.

On the other hand, emotionally inspired publics east of the Mississippi River have become vitally involved in public land management and this has brought on another Bureau dilemma.

In 1971, the Wild Horse and Burro Act was passed by Congress without a dissenting vote. It allows free use of the public lands by wild horses and burros. A per-

plexed BLM is now faced with a population explosion of these protected animals that poses a greater threat to the vegetation than herds of Mexican longhorns. Horses and burros were slyly kept under control by ranchers and others prior to passage of the Act, but now it is a $2,000 fine to be caught killing one. The result has been an annual increase of 20 percent-plus on public lands.

BLM tried to solve the overpopulation problem through an Adopt-A-Horse -and-Burro program, but this recently came under attack when a national TV program revealed that some adopted horses still were ending up in the slaughterhouse. The ironic part of all this is that livestock and wildlife numbers both can be controlled, but horses and burros can't.

Are sportsmen groups pushing for amendments to this emotion-passed legislation so horses and burros can be better controlled? Hardly. Meanwhile, the range suffers as BLM tries to devise means within the framework of the law to protect the land from these once feral animals.

In New Mexico, sportsmen lacked the political muscle to help BLM initiate a new fencing program that would replace barbed wire bottom strands with smooth wire to permit free passage by antelope. The program was smothered under pressure from ranchers and the result became another five-year study rather than any action.

In Arizona, freshman senator Dennis DeConcini forced the removal of a range-conscious BLM manager in Kingman after overreacting to a group of ranchers. However, local, regional and national wildlife and environmental groups this time jumped into the fray and politicians likely will be more discreet should such an issue develop again.

The most serious problem on BLM lands today is overgrazing. The Natural Resources Defense Council won a lawsuit in 1974 and forced BLM to write Environmental Statements (ESs) on all lands subjected to livestock grazing to determine the impacts. The ESs have been a heavy drain on Bureau funds and many on-the-ground programs have been deferred to handle these court-ordered costs. On the other hand, BLM considers the ESs somewhat of a victory because they point out the seriousness of overgrazing and the need for intensive control of livestock numbers.

The problem that remains—and that needs sportsmen's help—is to get money appropriated by Congress to improve these acres of long abused rangelands. One vehicle that can do this is the Federal Rangeland Improvement Act of 1978. It *authorizes*, but does not appropriate, some $365 million to be spent over the next 20 years to improve western rangelands for both livestock and wildlife.

BLM Director Frank Gregg, a former Colorado Game and Fish official, strongly supports this Act and hopes Congress will appropriate the annual funding for water developments, reseeding, etc. However, the key is to get extra funding under this Act and not rob other BLM resource programs that already are in a famine state of financing.

The wilderness review program that Congress has assigned to BLM also is destined to make more enemies than friends. The task is to review and make recommendations to Congress over the next 13 years on all lands that merit inclusion into the national wilderness system. Unfortunately, wilderness likely will create squabbling between conservation-type groups that should be standing shoulder-to-shoulder to protect the lands against powerful exploitive interests.

No land management agency in the Federal Government offers a greater potential for the nation than BLM. Yet, none is more ignored and mistrusted by wildlife and environmental factions.

What is needed today is a recreationist-preservationist-sportsmen political coalition to balance the strong lobbying of the economic-based users. This would ensure that the "Last Frontier" becomes a legacy for future generations to be proud of.

Involving the Public in the Management of Public Lands

ED HASTEY
Associate Director, BLM

One of the modern facts of life for the Bureau of Land Management (BLM) has been the phenomenal growth of the "publics" the Bureau serves in carrying out its mission to manage the public lands. Today, more people are concerned about the way the Bureau carries out that mission than ever before. In addition, there is a greater diversity in the ways people want to use the land and in the geographical distribution of those who are concerned.

Within a few short years the Bureau has been brought, some would say "dragged," into a new era of public land management with new publics and new goals. The transition has often been painful and sometimes traumatic. Yet, in retrospect, the results have been gratifying.

For one thing, we have learned that the public has a better understanding of the need for good management of the public lands than we had supposed and is willing to support good decisions once they are understood.

The growing demand for access to and use of the public lands has been, in part, a result of the so-called "recreation boom" in the 1950's when outdoor recreationists were attracted to the open spaces they found there. The interest generated in the 1950's continued with added dimensions through the decade of the 60's. Along with the growing recreational use of the public lands, there was also a growing concern about the environment. In 1969 Congress passed the National Environmental Policy Act (NEPA).

In 1973 the Natural Resources Defense Council (NRDC) brought suit in a Federal Court, under NEPA, to force the Bureau to prepare site-specific environmental impact statements (EIS) on its livestock grazing program for the public lands. The suit was settled in NRDC's favor, and the preparation of impact statements had, and continues to have, a profound impact on the Bureau's programs, manpower and budget. The preparation of EIS's is now an important and integral part of the land use and planning process.

This was followed by other legislation specifically written to address the management of public lands. The Federal Land Policy and Management Act of 1976 (FLPMA) and the Public Rangelands Improvement Act of 1978 (PRIA) were major pieces of legislation designed to stop the environmental deterioration of the public rangelands and to provide for their protection and enhancement.

Public involvement in issues pertaining to the public lands is not new. In hearings that led to the passage of the Taylor Grazing Act of 1934, the concept of a citizens board to act in an advisory capacity to the District Grazier was proposed. Later, when the Secretary of the Interior delayed in setting up such boards, Congress passed an amendment to the Act making such boards mandatory in each grazing district. Simply stated, the Advisory Board was, and is, an attempt to bring an outside viewpoint into agency decision making.

Through the years the Bureau has maintained a good working relationship with advisory boards on local, State and National levels, and has made good use of advisory groups on many kinds of projects. BLM also had early experience involving the public in programs and decisions in other ways. Many of the provisions now in law grew out of the Bureau's experiences in this area. From that experience the following generalizations can now be made:

First: *The public cares about how their lands are managed.* They not only care, but are making their concerns known, both in Congress

The public cares about how their lands are managed. A BLM Ranger (R) explains uses of California Desert recreation area to visiting tourists.

and through the Courts. The days when the management of the public lands was exclusively the concern of the few user groups who made use of public land resources are gone—forever. Public interest is widespread, and that is having a profound effect on the kind of laws that Congress has passed for the public lands and in the way the Department and the Bureau have shaped management policies.

Second: *The people want the public lands managed for multiple, rather than single uses.* Once it was enough for range specialists to be concerned only with the needs of livestock that grazed his management area. Today, livestock grazing is only one component in a very complex resource management system. During inventory and planning, the BLM District Manager will determine the forage capacity of the range, but he must now also relate that capacity to the needs of wildlife and wild horses as well as to the needs of livestock. Furthermore, he must determine what archaeological, paleontological, and other scientific resources are present, if there is habitat crucial to rare and endangered plants or animals, and if significant wilderness or recreational values exist.

During the planning stage, all of this information is used to devise a management plan which provides the best possible mix of uses and users that can be accommodated with due concern for the total environment and for related social and economic values.

The demand for multiple uses will have an even more significant impact on the way BLM operates in the future. For example, until now we have addressed only the impact of isolated grazing activities in the grazing impact statements, but beginning in 1984 all statements will deal with all resources found within the area. In short, BLM's goal will be to view the total resource management picture rather than merely addressing a single aspect of that picture. Grazing statements will be done as a part of resource management plans.

Third: *The public wants decisions about the management of public lands to be well documented and based on sound data.* This means that the Bureau must take care to document decisions so the public can assess the need, and follow the logic used in reaching those decisions. This has been a painful lesson to learn. Perhaps it wounds our vanity to learn that we can no longer "fly by the seat of our pants"—can no longer manage by hunch and intuition. Yet when one considers the court cases brought about because of a lack of sound data, or a lack of documentation, the lesson becomes unmistakable. Where data has been weak, the Bureau is now taking steps to correct the situation. Where there are disagreements over scientific principles and methodology, it will seek the best counsel available. BLM is now working with the National Academy of Science to help resolve some of these kinds of deficiencies.

Fourth: *The public wants to be a part of the decision making process involving the public lands.* Since Congress passed the Administrative Procedures Act, Federal agencies have been required to submit many of their decisions to the public for review and com-

The public wants to be a part of the decision making process involving the public lands. BLM Ranger explains plans for a Public Land area to some interested citizens.

ment. What is different today is the point at which the public becomes involved and also the degree of involvement.

Once, Federal agencies held public meetings to announce and explain a decision already made or about to be made. Now the public's involvement begins with the inventory and planning processes that lead to decisions.

While I served as the State Director of California, the Bureau became deeply involved in establishing a comprehensive, long-range management plan for the California Desert. There is a strong affinity between Californians and their desert, and as planning began, we recognized that we were dealing with sensitive issues and that there was a need to go beyond the usual boundaries of public involvement. A California Desert Advisory Board was established to advise the Secretary with respect to the preparation and implementation of this plan and to help bridge the gaps between the Bureau and the public.

The Board held a number of seminars in locations convenient to interest groups seeking to identify concerns the public had about the desert resources and conflicts that might arise among desert users. Position papers were solicited from interest groups including local, State, and Federal agencies, the academic community, public utilities, users and environmental groups.

We contacted local governments representing eight counties and 23 cities located in the desert. We conducted opinion polls at State and National levels and independently conducted 600 personal interviews.

As a result, a draft management plan and an environmental impact statement on that plan was prepared and released for public comment on February 15 of this year. After the comment period ended and the comments were evaluated, the Bureau had the basis of the final management plan for the management of the California Desert. The public was involved from the beginning and worked with Bureau personnel all the way. Because they had input into the plan, the final plan should have widespread support.

One of the important provisions of the Federal Land Policy and Management Act is the four-year authorization of the Bureau's budget. The Act calls for the Secretary of the Interior to ask Congress for the funds he determines the Bureau can efficiently and effectively use over a four-year period. It also calls for public involvement in the development of the budget. This enables the Bureau to plan for the long range needs of the public lands. It also allows BLM to bring State and local governments into the budgetary process, which helps them gain a better understanding of the aims and objectives of the Bureau's programs.

State and local agencies will also become involved in reaching decisions about the kinds of programs and type of management that will best meet the Bureau's obligations. It involves the identification of significant issues, problems and trends at district, State and National levels in order to provide the context of funding and personnel levels needed for an

The days when the management of public lands was exclusively the concern of a few user groups are gone. The people want the public lands managed for multiple, rather than single uses.

effective program which is technically sound and politically acceptable.

The public will be involved in the identification of funding levels that can be effectively used in meeting the Bureau's management responsibilities. Together we will examine the alternatives or trade-offs that can be made within the framework of BLM's legislative mandates and resource responsibilities. BLM will enter into meaningful dialogues with Congress, Federal, State and local agencies, special interest groups, and the public so that everyone has a better understanding of the unique problems, issues, and needs for the management of public lands.

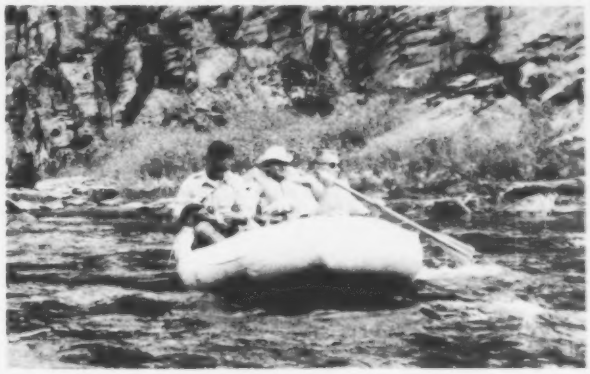
The concept embodied in the four-year budget authorization will provide the needed continuity to management problems and security for livestock operators and other users of the public range. In such a process BLM will be dealing with people impacts on the environment—and more than that, it includes political, social, and economic impacts on western States and communities for what BLM does in the name of sound management.

Finally: *The public wants results within a reasonable period of time.* This is closely related to the credibility of Federal agencies. As far as the public is concerned, a promise that takes too long to deliver is a promise broken. It may also be the hardest public demand to meet. It is inherent in the very nature of government to take time. The "project" must be planned and budgeted. Final approval can come only after extensive review at many levels. Court challenges result in further delay. For example, it may take five years between the time we begin our initial inventory of a grazing allotment and the day the first grass seeds are sown.

Yet, we are coming to grips with this problem wherever possible. BLM is trying to cut the levels of review and allow responsible employees to make as many decisions as possible without recourse to State or Washington offices.

The Bureau is also taking steps to allow State Directors to issue environmental impact statements pertaining to matters within their authority without the necessity of submitting the statement to Washington for lengthy review. This will speed up the process of preparing and releasing such statements.

In November, 1979, the Bureau issued a draft policy statement on the management of public rangelands for public review. That statement sets out the objectives the Bureau hopes to accomplish over the next twenty years. Congress, through the Public Rangelands Improvement Act, has authorized an expenditure of $365 million to be spent on rangeland improvements over the next 20 years. The promise of such expenditures makes the objectives feasible. The Act further specifies that 80 percent of the money appropriated be spent for on-the-ground improvements such as fencing, seeding, water development, etc. Money appropriated under the Act must be in addition to funds the Bureau regularly budgets for rangeland



improvements. The public should understand that money authorized is not money appropriated, but we have every indication that the appropriations will be forthcoming beginning in Fiscal Year 1981.

The rangeland policy statement sets goals to improve the public range and to maintain its quality, quantity and diversity. In doing so, we will double present levels of forage production. This additional forage will be made available for livestock, wild horses and wildlife.

As management intensifies there will be significant reductions in erosion, siltation and sedimentation on BLM watersheds. It will also improve habitats for wildlife, wild horses and wild burros. Intensified management will protect and enhance habitat vital to rare and endangered plants and animals and improve the condition of riparian zones, shorelines, emergent and submergent vegetation. It will enhance and maintain habitats for waterfowl, fish and other aquatic organisms.

In pursuit of these objectives the Bureau will consult, cooperate and coordinate with other Federal agencies and with State and local governments. The Bureau will seek input from the academic and scientific communities, advice and comment from individuals, corporations and interested organizations.

From all of these sources, the Bureau will develop its final plan for the future management of the Federal range.

The environmental movement has been a people movement expressed in terms of Congressional action. As a result of the public's interest, the shortcomings of the Bureau's management programs have been identified and sometimes magnified. But on the whole, the passage of the National Environmental Policy Act has impelled us toward more informed decision making.

Through the Federal Land Policy and Management Act, Congress has provided the comprehensive legislation many of us, both within the Bureau and without, have been asking for for years. The Act provides guidelines for the future management of the public lands.

Through the Public Rangelands Improvement Act, Congress signaled its willingness to provide the funds needed to reverse the trend toward deterioration that has been going on on the public rangelands for so many years.

The environmental movement and the growing public involvement in the management of public lands are long overdue. They are having a profound influence on the way the public lands are managed and that influence will be felt for the foreseeable future. Public involvement presents professional land managers with both problems and opportunities. The final result will depend on how they meet the challenge.

A Last Rush to Eden

The Settlement of Colorado's Ute Strip

DUANE A. SMITH

Mr. Smith is a Professor of History at Fort Lewis College, Durango, Colorado

She's Off! The Ute Reservation Opening.

Civilization and Progress Have Taken Hold of a Garden Spot in Colorado.

A Wild Rush for Ute Lands.

Horses, Vehicles and Even Men on Foot Were in a Confused and Tangled Mess.

These headlines greeted Colorado newspaper readers on May 4–5, 1899. The Ute Strip in southwestern Colorado was at long last opened.

"Another Oklahoma," was the optimist's forecast, and the press tried to conjure up that very image. Thousands of acres of Ute Reservation land south and east of Durango had been thrown open to settlers, providing many with their last chance to join a land rush and homestead "valuable land."

No ambitious person, with a spirit for adventure, could afford to miss such an opportunity.

Although there was not as much land available as in the earlier Oklahoma land rush, it still afforded the would-be pioneer an opportunity to acquire land having both agricultural and grazing potential. Nearly twenty years before, Colorado's agricultural writer, William Pabor had called attention to the favorable climate and fertile soil to be found in the area. Others agreed with him, lamenting the fact that the Ute Indians had retained control of the area. But now, after a decade of haggling, that "leaden cloud" had finally blown over.

On April 4, 1899, President William McKinley had proclaimed that the Ute land would be open for settlement at 12 O'clock noon, Mountain Standard Time, on May 4, 1899. Thus, the stage was set for a land rush.

The opening of the Ute Reservation lands was the culmination of conflict that had raged in southwest Colorado for almost a generation.

Durangoans had barely started to establish and promote their town in 1880 before they were demanding that the Ute Indians depart. These neighbors simply resided too close—only two miles from the city limits. The fact that the Utes had a prior claim seemed not to bother the newly arrived whites one whit. Their reasoning was typical of the time, particularly in the West:

> Are we in Southwestern Colorado alone to be at the mercy of the red-skins? Let the people move in this matter and get up a mammoth petition to the Sec. of the Interior . . . , to also remove the Southern Utes.
> — *Durango Record*, May 11, 1881

However, it was not until the mid-1890's that the logjam was broken to Durango's satisfaction.

Durangoans displayed some hypocrisy in their attitudes toward their Ute neighbors, especially when annuity time rolled around. It was then that the Indians had money to spend. Indeed, when hard times pinched the local economy in 1891, the editor of the *Weekly Tribune* was moved to comment that the Utes came "just now when needed." Also, it slowly dawned on budding entrepreneurs that Indian ruins and even live Utes were a tourist attraction which brought money to the local coffers. Nevertheless, most residents did not want the Utes simply removed "a few miles" into Utah, where they would still be in a position to steal cattle. They wanted them far away, someplace over in Mormon country.

This nettling problem of relocation stymied both local agencies and the Federal Government. Places where a large number of Indians could be dumped were rapidly disappearing. The West was filling up with people who abhorred the idea of Utes living on their doorsteps. When the State could not resolve the problem, the solution fell to Uncle Sam.

Long before Colorado became a part of the United States, all of its western slope had been the home of the Utes. In a mountainous and isolated land, the Utes had escaped the pressures of white settlement until after the Pike's Peak gold rush of 1859. The gold rush brought the conflict between the cultures to a head within two decades.

The attitudes of Coloradoans at that time was much the same as the attitude expressed by Durangoans in the 1880's. For example, in 1871 the Rocky Mountain Directory called the Utes "savage tribes," who must finally become "extinct, leaving rich possessions"

Durango, Colorado about the time of the opening of the Ute Reservation lands.

to be occupied and developed by a "more appreciative race."

The Government's reaction, typical for the times, was to work toward an agreement to get the Utes to move onto a reservation and thereby open up the rest of their lands to white settlement. In 1863–64, efforts were made to locate a reservation for the Utes, but the Government was not able to reach an agreement with the Indians. Nevertheless, one band of Utes agreed to the Government's offer and, as a result, about one-quarter of the Ute land was opened to white settlement in 1864.

The Utes lost more land in 1868 as a result of another treaty. Then, in 1873, a mining rush into the San Juan Mountains north of the present site of Durango led to what had become known as the Brunot agreement. That agreement ceded some highly mineralized lands to the whites. But the Utes still controlled most of western Colorado, and white pressure continued.

An explosive situation finally ignited in September of 1879 when an Indian Agent, Nathan Meeker, and others were killed. The public outcry that followed led to the northern Utes being marched off to Utah. For the time being, the southern Utes, who had not been involved in the killings, were left in place. With that background, the stage was set for the last act of the drama.

the Utes to an agricultural life, as long as it was done somewhere else and not in the nearby Garden of Eden. When it became obvious that removal was out of the question, they grudgingly accepted the idea of decreasing the size of the reservation and allowing the Utes to stay. Finally, in February 1885, a bill was signed by President Grover Cleveland. It gave the Utes the right to choose individual allotments of land anywhere on their reservation, or to travel to land which would be held in common on the western part of the reservation. The remaining acreage would be open for settlement. After a series of meetings, the Indians agreed to the conditions and the choices were made.

The *Durango Herald* eagerly looked forward to the opening. Hard times had settled upon the community as a result of the depression of 1893. On January 1, 1895, it took an optimistic view for the coming year.

> Another fact of no small amount bearing on the outlook for the coming year is that the Ute reservation will undoubtedly be open to settlement within the year. This vast tract of land, much of it of a tillable character, will invite a large immigration.

Yet, several more years passed

Settlement pressures, land cession, treaty promises—before it was over, the scenario was played several times—each time the Utes relented. Now, it was starting once more with the Durangoans in the starring roles. That the Indians would be removed was not at issue. Only the matter of where complicated the plans. The Government hoped to induce the Utes to take up an agricultural economy. The Durangoans simply wanted them elsewhere. For more than a decade, the Government and the Durangoans sparred with each other. Bills providing for removal were introduced into Congress as early as 1885 and 1886, but failed. In the meantime, the residents of Durango did what they could to keep the pot boiling by holding meetings and submitting petitions. Opposition from the Indian Bureau and eastern philanthropic groups and indecision from Congress caused further attempts in 1888, 1889, 1893, and 1894 to fail. Coloradoans seethed over each delay.

One suggested approach was to separate the children from the families, educate them, and by compulsory methods, adapt them to agriculture.

Southwestern Coloradoans did not oppose the idea of adapting

before Durango's wish was fulfilled.

Most worrisome was the fact that many Utes chose allotments, 371 to be exact, for a total of 72,000 acres. Using both wisdom and foresight, they selected some of the best land available. Horrified whites watched this turn of events in dismay. They saw this as a plot to "force" the Indians to locate in the eastern part of the reservation where the better agricultural land was.

Colorado's respected Senator, Henry Teller, came to investigate the accusations of a plot. He agreed that there was a strong possibility that the charges were true and offered the opinion that it was a great wrong for the Indians to settle there, but he could do nothing to stop the Government's actions.

Each year the Durangoans expected the remaining land to be opened to settlement and for prosperity to arrive with the wave of settlers. Through 1897 and 1898, they waited impatiently while the necessary agencies were established and surveys made. Then came 1899. The great day drew near and excitement ran high.

Both Denver and Durango newspapers oozed with anticipation. Dave Day, a long-time editor (and once a Ute agent) unleashed some of his more flamboyant rhetoric in a Denver interview. According to Day, the opening was one of the most important movements ever known to southern Colorado. There was, he contended, enough coal on the reservation for Durango to supply the world for 100 years to come. "It means a great increase in population and the settlement in the region of a thrifty class of people who will prove a vast benefit to all business interests."

Durango papers joined the happy chorus. Editorial opinion held that 50,000 people would rush at the "Great Opening." Just in case neither coal nor farm land appealed to the prospective boomer, the News appealed to historic instinct: ". . . (this is) the last opportunity of the white man in Colorado to take up a homestead in one of the most inviting regions of the continent."

The Denver and Rio Grande Railroad, with tracks across the land involved in the opening and much to gain by settlement of the area, was also busily promoting the "Opening." A pamphlet, distributed by the railroad, encouraged settlers to come to "one of the most fertile portions of Colorado," where the livestock industry "gives promise of unlimited growth," and the supply of water for agriculture "is many times greater" than would be needed. The Ute Strip, the railroad claimed, could only be reached by the Denver and Rio Grande.

With only one month to officially plan and scheme, Durangoans prepared for the great day. As the only community of any size near the reservation, the town stood to gain more from the publicity and development than any local rival. The benefits could not come too soon.

Enthusiasm built until the last week of April, then exploded.

Durango turned its full attention toward the event at hand. Residents expected a rise in real estate values, although it was reported that local real estate dealers "commendably" had not taken advantage of the situation to immediately raise prices.

Some citizens expressed concern that the opening of the Strip would give rise to the rowdiness, and perhaps lawlessness that had characterized the Oklahoma land rushes. The apprehensions proved unfounded. Even with the town filling up with strangers, Durango remained quiet.

Some of the trappings of the earlier rushes did surface, however. The rushers were called "boomers," and those who tried to sneak onto the reservation before the official opening were dubbed "sooners."

One unidentified resident, whose authority in such matters rested on the fact that he had rushed into Oklahoma, prophesied what his neighbors wanted to hear:

> I nave no use for the man who says that the opening of the reservation will do us no good. I presume that some people who come will be disappointed. Life is full of disappointments. Everyone cannot have the best. You mark my words, prosperity is almost here, and 1899 will be the best Durango has seen for a long time.

Life might be full of disappointments, but the people of Durango were determined that the Ute rush would not be one of them.

As the boomers crowded into Durango, the citizens watched with fascination. The Bureau of Information worked overtime to provide information and maps to would-be settlers. Nevertheless, the first glimpse of the sandy, sagebrush-covered valley disillusioned the fainthearted who came expecting a Garden of Eden. The Bureau expended great effort to convince them that only water and work were needed to make it blossom.

While merchants prepared for the anticipated boom, the land office made special plans to handle the post-noon crowds. The town of Durango helped, providing two policemen to keep order. Richard McCloud advertised that he and his law partner Daniel Witter were experienced in "all land office papers" and "all land office business." Graham Hardware offered plows, harrows, garden cultivators and spring wagons at bargain prices. Livery stables offered teams and saddle horses for sale or hire, at what one individual called "Klondike" prices. In the offices of the *Morning Democrat*, the prospective settler could get maps and a digest of appropriate land laws.

There were two ways of establishing an individual's claim to a specific tract of land. One could join in the rush and stake a claim, or go to the land office and file on the land then go out to drive your stakes. The latter method was more risky. Preference would, in any case of dispute, be given to the individual who had driven the first set of stakes, but in the confusion of the land rush, it was often difficult to establish which set of stakes had been driven first. When two people decided on the same spot, the potential for trouble was great, no matter what the facts might be.

The last train brought a crowd of would-be settlers from Oklahoma, Kansas, Texas, and New Mexico. Distinctive among these were the Oklahomans, who had the advantage of previous experience and a knowledge of the fine points of

staking a claim. Even a few townsite schemes emerged, always without disclosure of definite plans for location.

Durango, despite its fears, remained peaceful. Extra police kept visiting gamblers and other undesirables under surveillance.

The morning of May 4 finally dawned and as the morning dwindled down to the last few hours, the Land Office braced to greet a long line of people who had started to congregate the day before. As noon approached, the town and would-be settlers stood poised and ready.

The powerful blast of the smelter whistle was the signal that the hour had come.

Most of the prospective settlers had decided that the surest way of getting their tract of land was to run. They poured out of Durango and other towns and from points along the railroad and the New Mexico line. They went on horseback, by wagon and on foot—all eager to stake their claim to a corner in the promised land.

William Mason had scouted out the reservation while on a prospecting trip and returned to make the run. His son, Lloyd, wrote about his experience:

> He began to figure how to make the run. . . He discarded the idea of getting a livery barn rig to take him and get to his chosen place first. When he arrived no one was yet in sight, but he drove his stake and waited to herd off all comers who might want the same land.

Rev. C.H. Miller and some friends had also scouted the shortest route to the land they wanted, and used fast horses to reach it.

Harry Harvey was the first to bring his land under cultivation. His father owned a farm just south of Durango that joined the reservation. Harry simply stepped across the line, planted his stake and by four minutes after twelve was planting potatoes.

Women as well as men participated. One of the Boomers was a 70-year old woman, and teenager, Ella Pierson, was one of the youngest to stake a claim.

Apparently, most of the chaos connected with the rush centered around Arboles where a great crowd of boomers made a desperate rush for nearby land thought well suited for a townsite. Horses, vehicles and men afoot made a confused and tangled mess. The wonder of it all was that no one was killed or even seriously injured in the melee. Even here, things quieted down in short order.

The question of land ownership was bound to cause trouble. The rights of those who filed their claim in the land office as opposed to those who had actually staked a claim was at issue. Stella Frazier remembered the trouble she and her husband John had over this issue. Initially, seven men claimed parts of their homestead. Eventually it narrowed down to a single counter claimant, a Swede named Carlson who had filed in the Land Office in Durango. Both Carlson and the Fraziers built small houses and entrenched themselves, determined to hold the land. During the months while both parties waited for a title hearing, Carlson decided to take the situation into his own hands. A horrified Stella related what she saw one day as she watched her husband walk back from the mailbox.

"I saw Carlson rise out of the sagebrush with a gun and shoot at him (John Frazier) three times. I saw John fall. Then Carlson started toward the house and I began piling furniture against the door. But he changed his mind, went to his place, saddled his horse and rode off."

John Frazier recovered. The matter was finally settled when they bought out Carlson's claim. Later the court decided the matter in favor of the Frazier's. Fortunately, there were few incidents of this kind to mar the aftermath of the last land rush.

Once the dust had settled and the last waltz of the Grand Ball had wafted into the night, sober second thoughts brought the realization that the rush had failed to measure up to expectations. It was estimated that only 500 to 700 people had raced for land, and the *Weekly Herald* editorialized that:

> The huge crowd that the railroad assured us would be here did not materialize and our merchants lost a good deal of transient trade. . . slow steady growth is best in the long run every time. Our good times have just begun.

What had happened to the crowds of settlers? One explanation was that people who planned to rush in from the south had been attracted by land in New Mexico instead. Also, not many local people bothered to claim land. Thus, by their actions, they spoke more harshly. The land was not the promised garden.

Both Durango papers pointed their pens at the Denver and Rio Grande Railroad. Rates had been too high, not equaled in the "... way of a holdup since railroading became an element of traffic." Although gold seekers did not consider such matters, farmers carefully weighed railroad rates.

Despite the newspaper's fire and brimstone bombast, the rush had failed to generate much excitement. Even State coverage had been mixed at best, and outside Colorado reports went little beyond routine mention. Maybe times were just not conducive. In the hard times of the nineties, farming offered little attraction. What did happen was a slow and steady filing on the land during the weeks that followed as people took their time to inspect and evaluate the remaining lands. Maybe the Denver and Rio Grande's willingness to finally grant excursion rates to Durango had something to do with the belated interest, but more likely the problem was with the land and water, neither of which matched expectations or pronouncements. As early as 1883 commentators had warned that homesteading was not easy, especially for the married man, and without water Colorado was a desert. Several people whose parents homesteaded in the Ute Strip talked with the author and all agreed.

One woman remembered how her father had acquired a homestead.

> We contested it. You see the lady that was living there, her son turned out to be a cattle rustler. They were ordered out of the community. So when he had to leave, he had to take his mother who was living on our place, and we contested it. You

Although preference would be given to the individual who had actually driven the first set of stakes on the land, many homesteaders chose the alternative method of filing at the land office first and then actually staking out the property. A long line of people had already begun to que up at the office the day before.

see, you had to live on a place five or seven years in order to prove up on it. So we contested it. And of course they couldn't come back, and we lived on it for seven years and proved it up.

Helen Murray was only a young girl at the time, but remembers her parents' experience. Her father was more fortunate than many because he found water.

It was awfully hard in those days to make a living. All we had was waste water for our garden. Then we dug a well first. We had a cistern. Pa could witch for water, so he witched. . . . We had a wonderful well; it was a good well. It was only 30 feet to the water. Oh, we did things the hard way but we got there.

A woman with three children to support found homesteading incredibly hard. Her eldest son pointed out that no one could make a living unless he had access to water. Many people lived on their homestead only part of the year to meet the residency requirements and found jobs elsewhere so they could get by. His mother taught school.

"I was the man of the house and did whatever was to be done—cleaning, farming, worked on the ditch. . . well, I look back on it as a tough life. I wouldn't want to do it again. (Not until 1907 did they get water.) The land had to be cleared of sagebrush and plowed. No, we didn't try to dry farm down there. Then (after getting water) we planted hay and grain, just the standard crops. Tried to raise a few cattle, generally milk cattle. We could sell the cream; we were too far from town to sell the milk, but you could sell the cream," he said.

When asked to elaborate on life on the homestead, he declined, commenting with a sad voice that he would just as soon not talk about it. The painful memories were perhaps best summarized by a later comment, "We did just as we could to get by. Homesteading wasn't any dream in those days; it was pretty factual."

His sister, although younger, remembered the times. One episode stood out in her memory.

As I say, we were too young to realize what we were really up against. Since I've lived through it I realize all right. One summer we were living at this homestead shack and an old cat furnished us with meat all summer. You know, she'd come in and my mother would say, "Oh, that old cat has brought us another rabbit."

Yet despite the hardships, the family stayed, persevered, and in later years developed a fine farm on their claim.

None of these people paint a romantic view of homesteading. Hard physical work occupied their days, and the rewards in those early years were few. Water for irrigation was essential for successful farming and those poor farmers who had no money to help finance a ditch, or pay the high water rates when water did arrive had a bleak future. Water was, and still is, the secret of success on the Ute Strip.

Yet for all the hardships, the people involved in the settlement of the Ute Strip showed a spirit impossible to recapture. There was raw courage too, evident in a statement made by James Frazier, father of the wounded John.

"It might appear to some that homesteading would be an interesting experience and an adventure. I do not think anyone who has been through the racket and privations would want another homestead on the same terms. To be shot at and cussed at and to fight a case of contest and worry, working and starving on a place that might all go to another fellow is not an enjoyable condition."

But the Fraziers and others came and turned the "sage plain" into a farming area.

Today the land has passed through new generations of ranchers and farmers. With irrigation the land has "blossomed" even if it has not yet become the "Garden of Eden." Those who made the rush in 1899 would be pleased with what their sweat, hard work, worries and expectations have brought.

Public Land Sales

Tracts of public land are sold by the State Offices listed on this page. Sales are held only when land use planning indicates that the public interest will be better served by disposal or the tract in question. In light of the time involved in preparing, printing, and distributing this publication, it is impossible to report on all sales far enough in advance to give most readers an opportunity to participate. However, notices of sale will be published in the Federal Register and in local newspapers serving the community where the land being offered is located. These notices will appear at least 60 days before the sale. Currently, the only States authorized to conduct auction sales are Nevada and Wyoming.

STATE OFFICES

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ALASKA:
701 'C' Street
Box 13
Anchorage, AK 99513

ARIZONA:
2400 Valley Bank Center
Phoenix, AZ 85073

CALIFORNIA:
Federal Building, Room E-2841
2800 Cottage Way
Sacramento, CA 95825

COLORADO:
Colorado State Bank Building
1600 Broadway
Denver, CO 80202

STATES EAST OF THE MISSISSIPPI RIVER, PLUS IOWA, MINNESOTA, MISSOURI, ARKANSAS AND LOUISIANA:
Eastern States Office
350 So. Pickett St.
Alexandria, VA 22304

IDAHO:
Federal Building, Room 398
550 West Fort Street
P.O. Box 042
Boise, ID 83724

MONTANA, NORTH DAKOTA AND SOUTH DAKOTA
222 N. 32nd Street
P.O. Box 30157
Billings, MT 59107

NEVADA:
Federal Building, Room 3008
300 Booth Street
Reno, NV 89509

NEW MEXICO, OKLAHOMA AND TEXAS:
U.S. Post Office and Federal Building
P.O. Box 1449
Santa Fe, NM 87501

OREGON AND WASHINGTON:
729 N.E. Oregon Street
P.O. Box 2965
Portland, OR 97208

UTAH:
University Club Building
136 East South Temple
Salt Lake City, UT 84111

WYOMING, KANSAS AND NEBRASKA:
2515 Warren Ave.
P.O. Box 1828
Cheyenne, WY 82001

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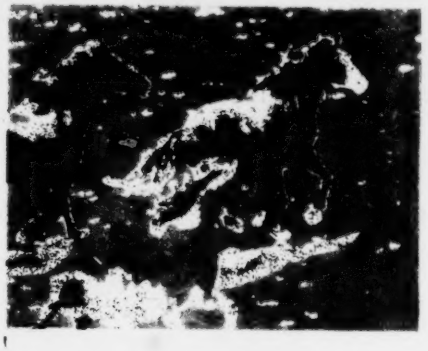

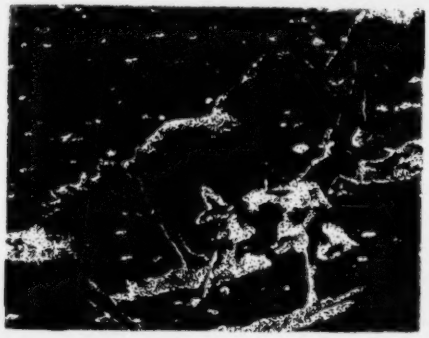

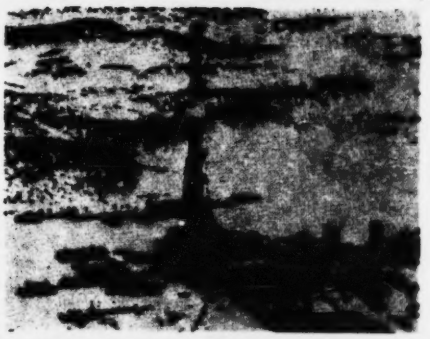

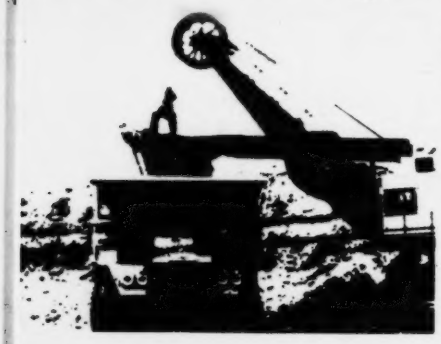

Making Multiple Use Decisions

See page 8

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Connie Babb, Editor

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Our Public Lands

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Multiple Benefits Seen In Prescribed Burning

Connie Kingston
California State Office

Everyone was in position, ready for action. A final check was made on wind, speed and direction. Tension mounted. Finally, the command everyone waited for crackled on the radio: "Lift off!"

Within minutes, fireballs were dropping from the air, igniting the brush as they landed. Soon a wall of fire was moving up the mountain.

No, this wasn't the filming of a science fiction thriller. But many elements characteristic of producing a motion picture were present. The operation had been carefully planned. The directors had defined necessary weather conditions and selected the location and cast with great care. Here the similarities ended. The objective was not to win an Oscar but to save the public thousands of dollars through reduction of wildland fuels.

The operation was a "prescription burn" of the South Pinnacles/Chalone Creek area in BLM's Folsom District. The special project was under the direction of Diablo Resource Area Manager Mark Lawrence, assisted by the Prescribed Burn Team.

In 1977 the use of fire as a management tool was addressed by the Diablo Resource Area in the Fresno-San Benito Management Framework Plan. The MFP recommended a number of areas for prescription burning to improve wildlife habitat and reduce fuel accumulation. These areas were specifically addressed in the District Five-Year Burn Plan for San Benito County, with the South Pinnacles/Chalone Creek Area identified as the number one priority area by the California Department of Forestry (CDF) and the National Park Service (Pinnacles National Monument).

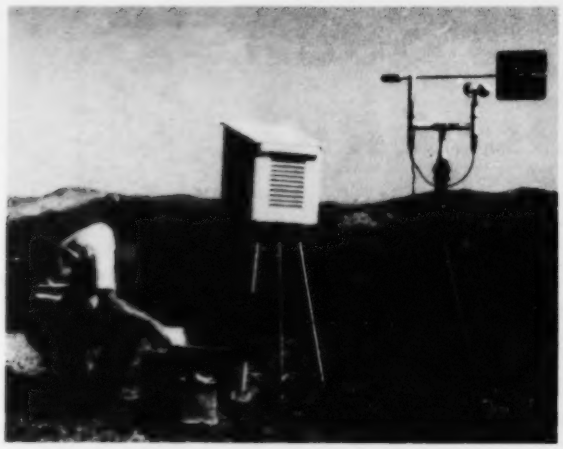
CDF, contracted by the District for fire suppression responsibilities on BLM-administered public land, was concerned with the excessive fuel build-up of chamise chaparral on approximately 2,000 acres adjacent to the Pinnacles National Monument.

A prescribed fire well underway. Prescribed burns are helpful for increasing water yield, improvement of grazing and deer browse.

Rod Broyles, Pinnacles Superintendent, also shared CDF's concern that a wildfire starting on BLM public land could roar into the monument from the south. Because the Pinnacles is a wilderness area and the BLM public land is a wilderness study area, suppression restraints imposed by law would virtually render the fire uncontrollable.

In reviewing the area, it became apparent that if a prescribed burn was to be done, the most logical approach would be to include intermingled private land and utilize existing roads and trails as control lines. The land owner, Albert Hansen of Salinas, wholeheartedly supported the plan. He recognized the beneficial impacts to livestock grazing of the removal of the heavy brush.

A 560-acre State school land parcel also was located within the perimeter. It, too, was covered with old brush and had chained brush windrowed on a portion of it. A unique fuels management agreement was signed with the California State Lands Commission which granted BLM permission to maintain fuel breaks and conduct a prescribed burn on the State school lands.



(Top left) Monitoring weather conditions at a site begins weeks before the prescribed burn to reveal unique climate traits. (Top right) An evaluation plot at a burn site provides a permanent record of a burn's effectiveness. (Bottom) A wall of fire burning to a previously established fire break is monitored by BLM firefighters.

Everything began to fall into place. BLM, together with the California Department of Forestry, the National Park Service and the Hansen Ranch all had similar objectives. Additionally, the California Department of Fish and Game supported the proposed burn as being beneficial to wildlife.

The burn was scheduled for late fall 1979, when wind, temperature, relative humidity and precipitation, combined with the fuel and terrain conditions, would result in a cooler and controllable burn.

Originally, the plan called for drip-torches to ignite the area but that was before the helitorch came to the attention of Rich Hafenfeld and Dave Moore of the Folsom District Office while attending a prescribed fire training session.

During the session, they had the opportunity to see the helitorch demonstrated on the Mendocino National Forest. Upon returning to Folsom, they set wheels in motion for the helitorch to be used in the South Pinnacles burn.

According to Hafenfeld, "It was unbelievable! We had taken cover inside a pick-up as it had started to rain and watched as the helitorch ignited the burn area. It was ideal for the rough, rugged South Pinnacles Area."

The helitorch, suspended below a helicopter, isn't a new system as it has been used in Canada for some time. The difference, however, is in the use of an alumagel/gasoline mixture instead of a diesel and gasoline mixture. The gelled fuel droplets penetrate the fuel bed to get fire on the ground and allow better and extended burning under marginal conditions. The heat intensity is great enough that effective burns can be conducted during the late fall and winter periods.

The torch also allows greater versatility in covering a larger area with fewer people and allows accomplishment of burns in a shorter period of time under marginal conditions.

Suspense and drama, common ingredients in many successful film ventures are almost inherent in any fire related activity. As evidence of fall crept through San Benito County suspense mounted in the Folsom District. The Fire Team was ready and anxiously waiting for the desired prescription conditions.

(Top left) Helitorch and chopper being prepared for flight. (Bottom left) The helitorch consists of an ignitor and a 55-gallon drum of an alumagel/gasoline mixture. The mixture is heavy enough to penetrate brush cover and set fire to underbrush. (Right) The firey globs of gel spew from a helitorch.

On November 26, 1979, equipment and manpower converged upon the proposed burn area. Camp was set up and the team made last minute preparations and reviewed assignments.

Early the next morning the area was bustling with activity. Tension and anticipation permeated the surroundings as everyone was eager to get started. Inter-agency crews were carefully preparing the volatile mixture at the heliport for the first run. And, at last, everything was ready and the go-ahead was given.

The South Pinnacles/Chalone Creek Prescribed Burn, covering 3,000 acres, had a successful ending:

1. Wildlife habitat was improved by breaking up the heavy brushfields,
2. Livestock grazing potential was improved on private and Federal land,
3. Fire had been reintroduced into the chaparral ecosystem which is dependent upon fire for rejuvenation,
4. The threat of a major wildfire entering the south end of the Pinnacles National Monument had been greatly reduced,
5. Fuels that had accumulated for 30 years had been reduced 50 to 70 percent,
6. Chained and windrowed brush on both State and Federal lands, which was the result of unauthorized chaining in 1973, was eliminated.

In addition, the helitorch, using alumagel, proved a valuable tool for all phases of fire management, including suppression actions.

The burn also was an outstanding demonstration of interagency/industry cooperation. The Monterey Ranger District, Forest Service, made the arrangements for the use of the Los Padres National Forest helitorch and Forest Service crews from the Mount Pinos District were made available to mix the jellied gasoline and load the helitorch. Others supplying equipment and/or manpower were the National Park Service Western Region Headquarters, Pinnacles National Monument; King City CDF Ranger Unit; all BLM Nevada districts, Nevada BLM State Office, and the Hansen Ranch.

Hidden Locations Help Protect Rare Art

Tom Evans
California State Office

One of the rarest kinds of art created by native Americans — pictographs — also may be the most vulnerable to loss: they are comparatively scarce and easy to destroy.

Petroglyphs (rock carvings) and intaglios (images made by scraping the desert floor) have suffered heavily from vandalism, but special circumstances work in their favor. The vast number of petrogylphs give assurance that some will survive; the typical large size of an intaglio requires a major physical effort for its total destruction.

Not so with pictographs (rock paintings.) One warped mind and one can of spray paint are two-thirds of what is needed to cause irreparable loss on a wide scale. The missing third element is knowledge of location and this, so far, has been a main protection.

Lack of knowledge about location cannot be counted upon to last, however. Inquisitive people continue to push through impenetrable brush, to descend one more canyon and explore one more hillside. A few of them carry spray paint. When an archeologist sets out to revisit a pictograph site, he dreads what he may find. It is not uncommon for him to find what he dreads.

No one knows for certain what is lost when a pictograph is ruined, but there are fragments of information from many sources that indicate who made the rock paintings and why they were made. If these indications are correct, the rock art was of extreme importance in prehistoric cultures.

There is continuing effort to find out more about the meaning of pictographs, but "hard evidence" is almost nonexistent. There are few accounts from Indians themselves, but these usually are scraps of information, often given with reluctance.

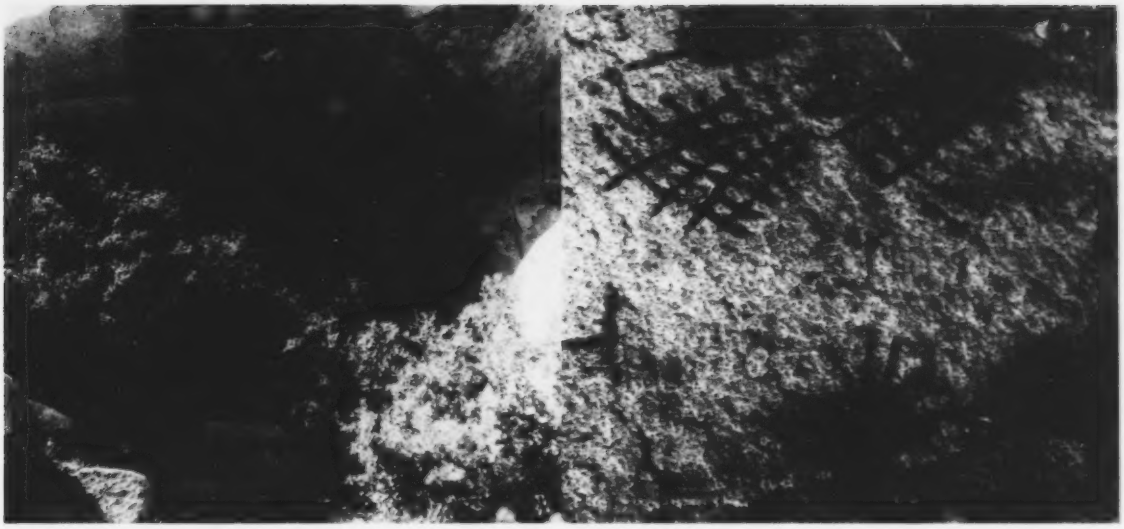
The detective work deals with bits and pieces of information, mixed with assumptions and the little that is really known. The conclusions that finally are made rest on the loose sand of not knowing absolutely.

One of the most notable detectives in the field of pictograph research is Ken Hedges, Curator of Archeology and Ethnology at the Museum of Man in San Diego. He recently completed an inventory of 27 rock art sites for the Bureau of Land Management in the McCain Valley Study Area in eastern San Diego County. Hedges has researched rock paintings in the area for 10 years and has authored numerous papers on his findings. His recommendations for BLM action to help safeguard the sites are given later in this story.

The rock art inventories are in a portion of the area once dominated by the Kumeyaay (Koom-yi), or southern Diegueno Indians. They occupied most of what is now San Diego and Imperial Counties and a portion of Northern Baja California. There is evidence they lived in the area at least 1200 years.

The known rock painting sites occur in an area of desert mountains about 80 miles long and up to 20 miles wide — only a fragment of the area occupied by the Kumeyaay. The sites extend into Baja for about 30 miles. All of

A Park Ranger explains petroglyphs to a young visitor.



(Left) Entrance to "Wikwip" cave, one of the most outstanding rock art sites in the McCain Valley Study Area. (Right) Pictographs on the ceiling of Wikwip are in red, black and yellow and depict supernatural symbols.

the paintings within this area have similar design features and are known as the La Rumorosa style. The name is derived from the site of the most elaborate style and is located in Baja.

All of the sites are associated with late prehistoric or historic Kumeyaay habitation. The latter is indicated by representations of men on horseback, and one site appears to depict Christian symbols.

Hedges said the typical sites are in shallow rock shelters and are clearly visible to anyone standing a considerable distance from the paintings. This degree of visibility is a key factor in vulnerability of the sites.

La Rumorosa style of painting is characterized by human figures with fingers and/or toes, lizard forms, sunbursts, circles and grids. They are painted in red, black, white and yellow.

The red paint is red ocher (iron oxide). The black is manganese dioxide and some charcoal. The source of white pigment is unkown but may be chalk or gypsum. The yellow is yellow ocher. Hedges believes the difficulties of obtaining raw materials and mixing the paints would preclude making the paintings for frivolous reasons.

He is convinced that most of the rock art of La Rumorosa style was done by shamans, the individuals who had the ability to contact and interact with the supernatural world.

"The shaman was much more than a medicine man or a witch doctor," Hedges said. "His contacts with the supernatural were for many purposes — to increase game, to bring about the abundance of plant foods, control weather, foster human fertility and cure illness.

"His contact with the supernatural could occur through visions, dreams and trances which could occur naturally, or which could be produced by fasting, or by the use of hallucinogenic substances.

"Such activities may result, as they have in many cultures, in art which illustrates mythological themes, the shaman's experiences, being and forces he encounters in the supernatural power, or the shaman himself as he performs his magical duties."

Shamanistic performances and paintings may have been connected with a wide variety of ceremonies, both public and private, Hedges said. He noted that the easily visible sites may have been the location of ceremonies conducted in the presence of numbers of people. There also are scatterings of small sites in out-of-the-way places. These may have been "power spots" where the shaman went alone to contact the supernatural and restore his power.

Among the most commonly recurring features in the rock paintings are abstract designs which Hedges believes might be pictures of phosphenes — the light images that many people can "see" when they close their eyes. The images can be caused and heightened by rubbing the closed eyes. Phosphenes also can appear with severe headaches or if something hits your head hard enough to cause you to "see stars."

"What you are dealing with," Hedges said, "are stimuli received by the brain which the brain interprets as visual stimuli in the absence of true visual stimulation. The brain has a way of dealing with things it can't understand or cope with, so it interprets the phosphenes as light or a visual pattern. Phosphenes are easily produced by most people by just closing their eyes but some people cannot see them at all."

Hedges said there are a number of basic patterns and elements that occur frequently in phosphenes. He has asked several of his friends to record the images they see so he

can compare them to the abstract designs in pictographs.

"We know that the shaman used the hallucinogen jimson weed in trances," he said, "and this would intensify the phosphenes. There are other ways of achieving this result, such as fasting. To the north, in the Tehachapi area, the Indians ingested red ants and let them bite internally. Apparently, this also caused hallucinations."

Tea made from the roots of the jimson weed was used in shamanistic ceremonies. There is not likely to be modern research to find out about hallucinogenic enhancement of phosphenes.

"The jimson weed is a very dangerous plant," Hedges said. "It's easy to overdose. Even the Indians' accounts tell that people sometimes died after drinking the tea."

Other designs which occur at some rock painting sites appear to be related to the Kumeyaay story of creation. These include the presence of two humanlike figures, a centipede-type representation and a whirlpool.

In the story of creation, there were two brothers who lived under the earth. They came to the surface through the sea. One of them opened his eyes in the salt water and was blinded. His movements are the cause of earthquakes. The other brother was the creator of everything. When he died, no one knew the ceremony for the dead. One of the people was sent as a bubble or whirlpool in the river to the sea to search for the monster, Maihiyowita, a giant centipede-like creature.

The monster came and taught everyone the ceremony. Then the monster curled himself inside a house. Fire was set to the house and the monster was burned. He broke into pieces, which scattered throughout the world. The legend says that is how we got different cultures and languages.

Another recurring design is like the skeletal figure, which Hedges said bears out a theme that is common to shamanism in North America and Siberia. The bones are viewed as the essential source of the life force, rather than the flesh and vital organs.

Fencing erected by BLM protects ancient petroglyphs and early explorers' signatures.

"In shamanism, it is from the bones that shaman is regenerated after his death and dismemberment in the supernatural world," Hedges said. "This theme has not been specifically identified for the Kumeyaay, and the presence of the skeletal motif must remain as a tantalizing symbol of all that we do not know."

Among other design elements in rock art of the McCain Valley study area which have shamanistic implications are those with a sun motif. These occur at numerous sites and reflect the belief that the sun was the source of life and power.

Hedges has identified rock art sites which are associated with the winter solstice. He also located what appears to be Kumeyaay "observatories" used to determine when the sun would halt its chilly movement on the southern horizon and return northward to restore life.

"If you observed the points at which the sun rose from the time of the summer solstice (June 21 or June 22), it would appear to move toward the South each day. It would reach the southernmost point at winter solstice, on December 22," Hedges said.

"As the winter solstice approached, it was a bad time for Kumeyaay, as well as many other people. If something was not done to stop the southern movement of the sun, there would be no new life and the world would come to an end.

"Even though the sun stopped its southern movement every year at the same time, you could never be sure it would happen. It was necessary to do the ceremonies. It was a time of real crisis and it was believed that the shaman was able, through his contacts with supernatural powers, to have some measure of control over the cosmos."

For the last four or five days centered on the winter solstice, it could not be detected by naked eye observation that the sun was coming up in a different place on the horizon. Would it go North again and bring springtime and new life, or would it go South again? Finally, northern movement could be seen. There are ethnographic accounts that this event caused enthusiastic song and dance.

Hedges has made winter solstice observations from some of the places used by Kumeyaay for the same purpose. The observatories have rock alignments in which one axis points toward a distant horizon marker such as a prominent rock or mountain peak. In one case, the horizon marker, where the sun rises, is 14 miles away and allows a great deal of precision in determing the time of winter

solstice, Hedges said. The rock alignments at one of the observatories have since been ruined by vandals.

Hedges is confident that many of the general assumptions made about Kumeyaay rock art are correct because they are based on a general knowledge of shamanism throughout the West.

"As far as getting specific explanations," he said, "I think that literally is impossible. What we know about shamanistic experiences in general indicates that any individual shaman's experience is going to be unique, so only the person who made the painting would know what it is really about.

"What Indians know about the rock art today is really hard to say. They know it's important, but they are reluctant to talk about it."

Are there shamans among the Kumeyaay today?

"I don't know," Hedges said. "There are people who have shamanistic knowledge. Whether they are actually shamans or not is hard to say. I think there probably are some. You can't just contact one and talk to him. I know of no one who claims to be a shaman or who says he can interpret the rock art."

How can the rock paintings be protected?

"Don't tell where they are," Hedges said. "There is nothing short of keeping guard at each site that will give complete protection. There are no coatings you can cover them with."

In his draft report to BLM, Hedges says:

"...Where sites are open to public visitation, there is inevitably an increase in destruction through vandalism...In general, the remote location of the rock art sites and the fact that most of the smaller sites are not obvious to the casual visitor have served to protect rock art resources in the McCain study area.

"Whether restricted access and public education can solve these problems (of vandalism) remains to be seen, but it appears to be advisable to leave closed those areas which are currently inaccessible, and to incorporate sensitive areas...into zones of restricted access...In no case should an archeological resource be publicized to the extent that its location is revealed."

Hedges said it is fortunate that all but a few of the known rock art sites in the study area are either on public land administered by BLM or in Anza-Borrego State Park. There is one outstanding exception—a site called "Wikwip," or "talking rock." It is said that, if you stand in front of a particular rock at the site and talk to it, the rock will repeat your words.

Wikwip is considered one of the largest and most significant of all known sites and it is the only Kumeyaay site on the California side of the U.S.-Mexico border about which there is ethnographic data.

In the late 1920's, Malcolm Rogers of the Museum of Man obtained an account of the site from Wass Hilmawa, a Kumeyaay, that paintings in the cave were made by shamans as they prepared for ritual dance. It is not known if she was present when the paintings were made, or if the story had been passed down to her.

The site, about 100 yards from BLM-administered land, is a large rock-shelter cave on a hillside overlooking a permanent spring and what formerly was a large Indian village.

Paintings are located on the ceiling and back wall of the shelter. They include rectangular grids, an oval grid, sunburst, ladder, herringbone design, what appears to be a serpent, full-bodied anthropomorphs, lizards, an arrow, two-armed crosses, and many other designs. (Some of the designs are shown in accompanying photos.)

In his report, Hedges recommends that BLM acquire the site by land exchange or other means. "Inclusion of the site in an area with wilderness designation," he said, "would do much to protect it from increased access."

Wikwip is highly visible. Already, there are empty beer cans within 200 yards of the cave entrance.

Russ Kaldenberg, BLM's Riverside District archeologist, agrees that attempts should be made to acquire Wikwip and a few other sites on private lands in the area through exchange or purchase. He said some of the areas currently are suffering vandalism and each of the sites contains a portion of the data base needed for future research.

The BLM archeologist noted that almost all cultural resource investigations on public lands administered by the Bureau are now carried out to prevent adverse impacts on archeological resources by some proposed project on the land. The inventory conducted by Hedges, for example, will be part of a grazing environmental statement.

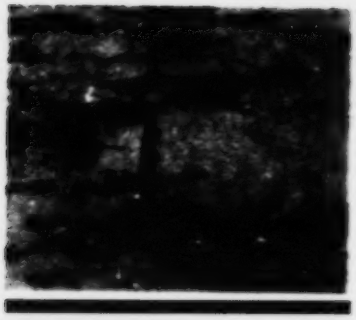
"Cultural resource managment currently is a support function of other activities," Kaldenberg said. "It is not a bona fide program in its own right. The data collected in this manner are not structured toward the entire cultural resource data base as an entity in itself. Thus, our evaluation of the entire span of cultural resources is dependent, not upon a representative sample of the entire data base, but upon a skewed sample.

"Research investigations must be structured around gaps in our knowledge and follow strict research objectives, not only as a response to other programs. In effect, this objective will go far toward converting the cultural resource management program from a support function to a valuable and viable resource management program in its own right."

If Kaldenberg could achieve a research project "for its own sake"—say for Kumeyaay rock art—it could be extremely valuable. There are many Kumeyaay still living in the area, on reservations and off. Some of them might be able to shed light in an area of considerable darkness.

The subject matter is certainly intriguing. Hedges said in the summary of his study for BLM: "Rock art is a very significant part of the archeological record in that it provides one of our rare glimpses into the sacred, non-material world of the North American inhabitants.

"Rock art sites are tangible links to the supernatural world and, although we cannot fully interpret them, their sacred status renders them doubly significant in any preservation and management decisions."



BLM's New Planning System

Making Multiple Use Decisions

Dave Strunk
Denver Service Center

Many things must take place and many questions be answered before a BLM manager can even begin to formulate a multiple use plan. Probably the first question a BLM manager would ask is, "What are the resources in the area? What are the major issues that could affect the way the area is used and how much do we know about them?"

Before he begins answering even the first question he will need:

- Basic inventories of the resources in the planning unit.
- Information on environmental values.
- Information on the economic needs of the Nation, State, region, and local communities.

Public land use planning is a public matter. Meetings such as these assure that persons and agencies have a chance to review and comment.

- Information on the social factors which could be significant in managing the area.
- Guidance on national, State, and local policy, and legal constraints.

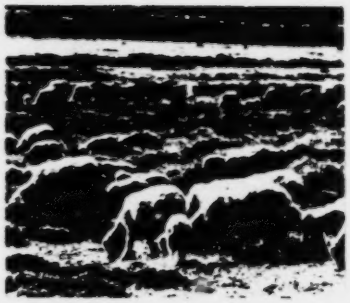
For years, the Bureau of Land Management (BLM) has been making multiple use decisions using a comprehensive planning system. Such a dynamic system is absolutely essential for an agency entrusted with the management of almost one-fifth of the nation's land.

Public lands managed by BLM are what is left of the public domain after individuals, corporations, State and local governments, and several Federal agencies acquired the most desirable lands during the country's westward expansion in the last century. Once the lands nobody wanted, these lands—over 350 million acres—have turned out to be a very rich national heritage indeed. Scattered unevenly throughout the West, these lands possess resources of enormous national value and provide some of the most awesome and spectacular scenery to be found anywhere in the Nation. They are what is left of America's "wide open spaces."

These same holdings contain vast amounts of fossil fuel for America's energy needs and other important minerals. They contain millions of acres of rangeland that help provide the country's meat supply and forests that supplement the Nation's timber production. They have significant recreational and wilderness values. They are home to hundreds of thousands of antelope, deer, elk and caribou, as well as millions of smaller wild animals and fish. And they possess magnificent scenic values and contain a vast cultural and historical heritage.

The Public Lands—174 million acres in the 11 Western States and 182 million additional acres in Alaska—are managed for the use and enjoyment of all Americans by BLM. The Bureau's job is to find ways of accommodating the increasingly competitive and conflicting demands on these resources while protecting and ensuring their long-term, varied uses.

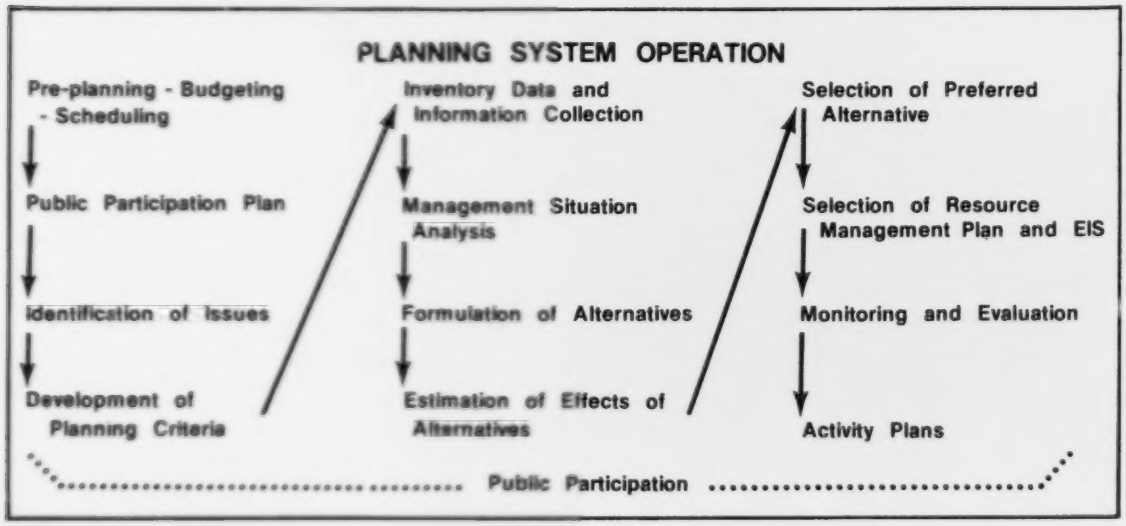
Because of this resource diversity and competition for numerous valid uses of the same acre of ground, a planning system is used to maximize resource opportunities, and minimize resource conflicts. The planning system provides the framework to obtain public



input, collect and analyze data, formulate plan alternatives and recommendations, and make resource allocation and land use decisions.

This planning system is now changing to reflect the increased complexity, competition, and sophistication of the 1980's and beyond. Multiple use decisions will now be based on a new planning system, which was developed in response to Section 202 of the Federal Land Policy and Management Act (FLPMA) of 1976, and other environmental and land use planning laws recently passed by the Congress. BLM was, to a large extent, already in full compliance

Diagram 1. The new planning process calls for a great deal of review and recycling among actions to insure an adequate plan. The test will be whether there is clear documentation that all actions have been adequately considered.



with the law with its existing planning process. Because of this compliance, BLM Director Frank Gregg initially considered a minor revision or refinement of the existing planning system.

After much deliberation and consultations with Congressional committees, other agencies, the Forest Service, the Office of the Secretary and other Departmental officers, and numerous BLM experts, Director Gregg determined that regulations were needed so that the basic rules for planning would be widely known.

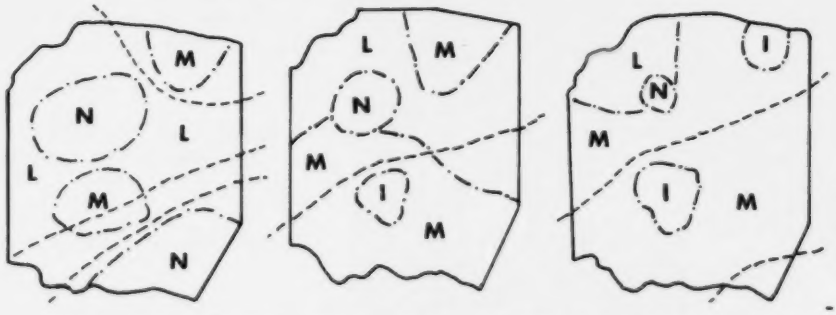
Public involvement played a big part in formulating draft regulations to implement this new planning system. Provisions for enhanced public participation in the new planning system itself is important with the increased legislative emphasis on plan coordination with other Federal agencies, and State, local and tribal governments. The new finalized planning regulations became effective on September 6, 1979.

Certain principles, which were laid out in FLPMA, will govern the development and revision of these multiple use plans for public lands.

1. The principles of multiple use and sustained yield (set forth in FLPMA and other applicable laws) shall be adhered to.
2. A systematic interdisciplinary approach shall be used to achieve integrated consideration of physical, biological, economic, social and other sciences, and the environmental design arts.
3. Priority shall be given to the identification, designation, protection and special management of Areas of Critical Environmental Concern (ACEC's).
4. The relative significance of the public land products, services, and uses to local economies shall be considered.
5. To the extent it is available, the inventory of the public lands, their resources, and other values shall be relied upon.
6. Present and potential uses of the public lands shall be considered.
7. Impact on uses of adjacent or nearby non-Federal lands and on non-public land surfaces over Federally owned minerals shall be considered.
8. The relative scarcity of the values involved and the availability of alternative means (including recycling) and sites for realization of those values shall be considered.
9. Long term benefits and detriments to the public shall be weighed against short term benefits and detriments.
10. Compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards or implementation plans shall be provided for.
11. To the extent consistent with the laws governing the administration of the public lands, the resource inventory, planning, and management activities of or for such lands shall be coordinated with the resource planning and management programs of other Federal departments and agencies, States and local govern-

Diagram 2.

PLAN ALTERNATIVES FOR A TYPICAL RMP



Note: The schematic display illustrates various Land Use Mixes (Plan Alternatives) by Multiple Use Classes (Capability Units) for a typical Planning Area (Resource Area).

ments, and Indian tribes.

12. The public shall be provided with early notice and frequent opportunity to participate in and comment on the preparation of plans and related guidance.

The new BLM plans are called Resource Management Plans (RMP's). They are prepared and maintained for resource areas, the smallest administrative subarea used by BLM. There are from two to four resource areas in a typical BLM District, with a total of 178 resource areas in the Western States (exclusive of Alaska) averaging 950,000 Federal surface areas in size. BLM will, with public involvement, develop, maintain, and, when appropriate, revise land use plans which provide for the multiple use of the public lands on an area or tract basis.

An Environmental Impact Statement (EIS) on the proposed actions contained in a plan will be prepared and integrated into the Resource Management Plan to form one document. The Draft Plan/EIS and Final Plan/EIS will be published and filed with the U.S. Environmental Protection Agency.

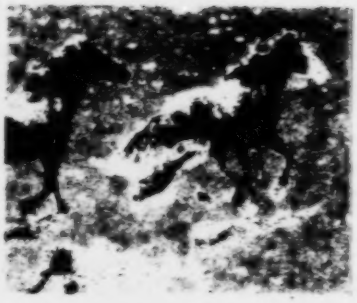
Resource Management Plans will be the major means for coordinating among the multiple uses of public land. They will allocate resources between uses and/or levels of use and indicate the direction of any change needed in resource use or management. RMP's will also prescribe the management and protection needed for areas of critical environmental concern (ACEC's), and other sensitive resource values and uses.

The new regulations apply to all BLM administered public lands, including any public land area subject to Acts of Congress such as the Wild and Scenic Rivers Act, the Oregon and California Lands Act of 1937, National Trails System Act, the Wilderness Act, and National Recreation Areas Acts, and other similar statutes specifically designating lands for particular uses.

These regulations also govern the preparation of resource management plans when the only public land interest is the mineral estate. Since the use planned for the Federally owned minerals could have a major impact on the nonpublic land surface in the same area, the views and concerns of owners of the surface will be obtained and considered. BLM manages about 760 million acres of subsurface mineral estate resources.

There are nine major required actions in the new planning process, although in actual practice, a great deal of review and recycling among actions is expected to insure an adequate plan. Diagram 1, entitled, "Planning System Operation," highlights this process. The principle test, at the plan approval stage, will be whether there is clear documentation that all actions have been adequately completed. In addition, prior to starting an RMP planning process, two prerequisite steps are necessary: (a) Pre-planning—Budgeting—Scheduling, and (b) Public Participation Plan.

1. *Identification of Issues.* This happens at the outset of the planning process and is repeated as necessary during the process. BLM's objective is to keep the planning process focused on key issues identified by the public, other Federal agencies, State and local government, Indian tribes, and BLM land managers.
2. *Development of Planning Criteria.* This happens next, based on the issues, planning criteria are updated as necessary during the process. The planning criteria guide development of the plan by setting standards for data collection, establishing alternatives to be examined, setting criteria for evaluating alternatives, and setting criteria for selection of a preferred alternative. The planning criteria are published for public comment before being finalized for use in preparing the plan.
3. *Inventory Data and Information Collection.* This includes the assembling of resource, environmental, social, economic, or institutional data needed to prepare the plan.
4. *Management Situation Anal-*



ysis. This is primarily a capability analysis. It examines the capability of the public lands to respond to the needs and issues identified earlier in the process.

5. *Formulation of Alternatives.* Several complete, reasonable resource management alternatives are prepared. One will be for no action or continuation of present levels or systems of resource use. The other alternatives could range from those favoring resource protection to those favoring resource production. The span of alternatives will be responsive to the issues raised.
6. *Estimation of Effects of Alternatives.* This includes an estimate and display of the physical, biological, economic and social effects of implementing each alternative.
7. *Selection of Preferred Alternative.* This includes evaluation of the alternatives and their effects according to the planning criteria and the development of a preferred alternative. At this point an integrated draft plan and draft environmental impact statement will be published for a 90-day public comment period.
8. *Selection of Resource Management Plan.* After evaluating comments on the draft, a final plan is prepared which can draw on any combination of parts which were shown in the proposed plan and alternatives. This is incorporated into the integrated final plan and final environmental impact statement.
9. *Monitoring and Evaluation.* While monitoring and evaluation occur after the plan is approved, they are considered to be part of the planning process. The approved plan will prescribe standards and intervals for monitoring based on the sensitivity of the resource to the decisions involved. For example, threshold levels will be established as maximum or minimum constraints in the RMP, to define levels of resource use, production or development. Monitoring will then determine whether any established threshold levels have been met or exceeded, whether there has been a significant change in related plans of other Federal agencies, State or local government or Indian tribes, or whether there is new data of significance to the plan.

Different combinations of land uses, activities, and resource allocations will be used to differentiate the alternatives displayed by Multiple Use Classes: natural, light, moderate and intensive. This approach differs from the previous planning system, which depicted uses on a more functional activity-by-activity basis, utilizing tunnel vision techniques. The new planning system emphasizes a greater combination of compatible multiple uses by forcing conflict resolution during the early development stage. It also focuses greater attention on the capability of the resources within the planning area.

Diagram 2, "Plan Alternatives for A Typical RMP", illustrates three action alternatives for a schematic planning area.

Time frames for completing the new planning process will vary with individual area characteristics.

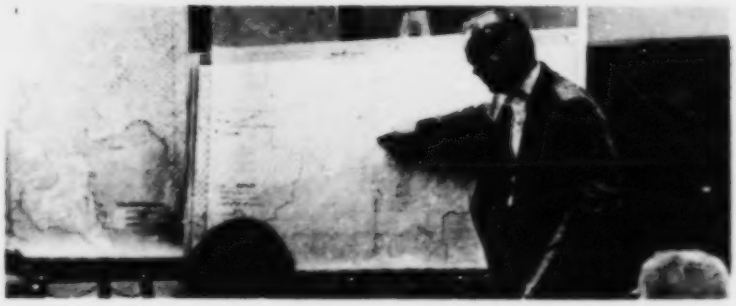
The average plan cycle is 10 years. Although plans can be revised sooner, an RMP will be redone at least every 10 years, based on monitoring and evaluation findings, new data, new or revised policy and changes in circumstances affecting the entire plan or major portions of the plan.

A revision is interpreted as a whole new plan. The entire plan is changed and updated. A plan amendment is caused by the same factors as those of a revision, i.e. new data, revised policy, etc., but only a portion of the approved plan is affected — not the entire plan. As with all planning efforts, plan maintenance is conducted to reflect minor changes in data and refinements of the plan.

Such a major changeover in systems will require ambitious, varied orientation and training programs on an interim and long term basis for internal, as well as external, Bureau audiences.

Congress has recognized that public land management cannot be shut down while new plans are being prepared. Therefore, during transition BLM's actions are governed by existing plans, which can be amended, and, if no plan

Gene Kinch, Assistant District Manager, airs public land use proposals at a public meeting in Rawlins, Wyoming.



exists, appropriate resource management actions may still be taken. A typical planning process takes about four years, from the first identification of issues, through inventory, development of alternatives, environmental assessment, the filing of draft plan/EIS documents, formal public comment, and the publication of the final plan/EIS documents. A planning status report and schedule, which lists ongoing plans and new planning starts, is published in the Federal Register at the beginning of each fiscal year.

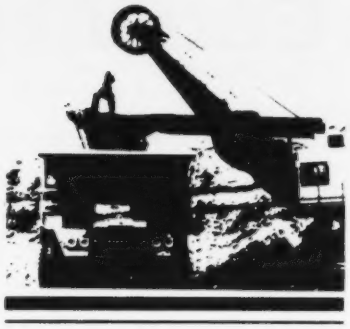
Although cooperative public participation in the Bureau's planning system has always been widely recognized, effective public involvement and coordination with other government levels is a key feature throughout the new RMP process. The objective is to provide for early, sustained, and constructive public involvement on a planned, purposeful basis.

Five specific points of minimal public input have been mandated by the regulations. These public notice and comment opportunities occur at the outset of the process; publication of the planning criteria; publication of the draft plan and draft EIS; publication of the final plan and final EIS which triggers a protest process; and after any changes in the plan as a result of action on a protest. Public comment is also invited on the Bureau's planning priorities.

Coordination with other governmental bodies is also encouraged during the planning process. Bureau objectives include keeping apprised of non-BLM plans, and to assure that consideration is given to those plans that are germane in the development of RMP's for public lands. Public involvement of other Federal agencies, State and local government officials, and Indian tribes in the development of RMP's is high priority.

This "land use zoning" approach, as applied to natural resource management, is thought to best exemplify application of multiple use management and sustained yield principles over time. The new planning system provides BLM and the public with greater flexibility while insuring more intensive analysis and management of each acre.

Making multiple use decisions in the 1980's and beyond for BLM, then, means utilizing a new planning system which is designed to result in better resource allocations and land use mixes. The planning process has been streamlined to increase productivity by formulating issue-oriented plans and by operationalizing multiple use management and sustained yield principles. New emphasis on the unique but limited capability of each resource area to provide opportunities for the "highest and best uses," without deterioration or destruction of the inherent resource values further contributes to Secretary Andrus' and President Carter's philosophies of increased productivity, efficiency and effectiveness from public land management practices. Director Gregg, in announcing these new planning regulations for BLM, said, "We are delighted to have the widespread support of the public and the administration in putting into practice our Good Neighbor Policy on the public lands through implementation of a streamlined planning and multiple use management delivery system. We feel confident that we can face the challenges of the 1980's equipped with the best scientific and technological tools available. Together, we shall fuse a partnership of public service and professional management that will carry us through the good times as well as the bad".

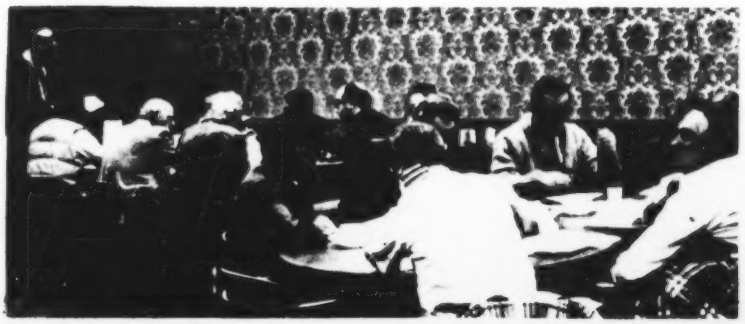


FOR MORE INFORMATION:

For more details about the RMP process and its related actions, we suggest that you review the new planning regulations in detail as published in the Federal Register on August 7, 1979. Also, the first planning status and new starts report published in the Federal Register on December 3, 1979, contains useful information on application of the new planning regulations. Subsequent planning status reports will be published annually, early in the fiscal year. Manuals, guidebooks, brochures and orientation/training materials, which describe the planning procedures in detail, are currently under development.

If you should still have questions about subjects covered in this article, please feel free to write to either the Director (202), Bureau of Land Management, 18th and C Streets, NW, Washington D.C. 20240, or the State Director, Bureau of Land Management for your area, at the addresses on page 23 of this magazine.

Workshop sessions give the public a chance to express just what "public" opinion is.



Counting Colorado's Eagles

Evaline A. Olson
Colorado State Office

Photo by Leander Urmig

The majestic snow-capped peaks of the Colorado Rockies were shrouded in clouds and fog so dense that only residents of the San Luis Valley could be sure they were still there.

The Bureau of Land Management (BLM) winter bald eagle habitat inventory flight had been delayed, waiting for the weather to open up. Nancy Green and John Schwarz, both Wildlife Management Biologists with BLM, were working this day's inventory.

Friendly banter helped to bolster sagging spirits. "How many birds today?" was the stock question they always exchanged. This morning it was John's turn.

Nancy replied, "Well, if we can get airborne, I'd expect to see about 50 birds."

"Sounds pretty ambitious to me," said John.

Much later than usual, the team took off with the inventory flight pilot. He has developed a keen and valuable sensitivity to their needs, knows the best speed and altitudes at which to fly, and when to circle. He understands too, just how close he may fly to the birds without flushing them.

The weather was only tolerable; the plane droned on. All eyes pierced the dull gray skies and searched the trees lining the Rio Grande River for just one bird. Minutes passed — Nancy sighed, "Where are the birds? We should have seen some by now."

Before John could answer Nancy glimpsed a large black bird out of the corner of her eye. Instantly the two questioned whether it was an immature bald, or one of the many golden eagles present in the valley. The pilot spotted the bird, too. Eye contact with the team, reinforced with a nod, told them he would veer away, then circle the bird and come around to a better angle for identification. Midway in the circle, Nancy and John simultaneously cried out, "Look at that!" Below them was an incredible sight. More than 60 bald eagles were restlessly coming from and going to a ragged cottonwood that stood alone in a fallow field. Pilot and team, working together, circled and counted, counted and circled until they were satisfied there were at least 65 bald eagles below.

As they circled, Nancy saw wisps of steam curling up under the old tree. She made a mental note to check out the area to see if the steam came from one of the many hot springs that dot the valley.

Generally, the inventory is a strenuous game of hide and seek that winds its way along snowy river banks and deep ravines, and involves miles of foot-weary hiking in search of winter habitat sites. But today there was frosting on the cake. Before returning to home base, John and Nancy counted 112 bald eagles. Not bad for a day that looked doomed to failure at the outset.

On the ground, Nancy's interest, piqued by the unique habitat, urged her to the site after the eagles had gone to their night roost. Armed with a flashlight, she quickly confirmed the presence of a small open-water pond full of carp.

Why does the BLM concern itself with counting bald eagles when its legal mandate is to manage the public lands? Very simply stated, from October through mid-April in Colorado and other western states, bald eagles have adopted as their habitat parts of BLM-administered and adjacent private lands. The bald eagle inventory on BLM-administered lands is an outgrowth of a May 1977 Presidential memorandum directing Federal agencies to provide leadership in hastening the implementation of the Endangered Species Act of 1973. A first step in this direction was for all agencies to identify Federally managed habitat essential to survival and recovery of endangered species.

The bald eagle's place on the endangered species list has been unique from the outset. Early taxonomists divided the bald eagle into two subspecies, or races, based on specimens from as far north as Alaska and from southern states such as Florida, the northern bird being much larger than its southern relatives. An arbitrary line, approximately the 40th parallel, was named the "boundary" between the subspecies. Birds nesting north of the 40th parallel are designated as the Northern race, and those birds nesting below the parallel are the Southern race. The 40th parallel cuts across the approximate center of the United States and so divides into two races the eagle populations in several states, including Colorado. But the eagles were unimpressed with the imaginary line that divided them, since their long distance movements enabled many of the birds nesting north of the 40th parallel to spend most of the non-nesting period south of that line.

A national inventory determined that the Northern race was doing very well and, therefore, was ineligible for listing as an endangered species. The decision was one that was not to stand the test of future findings.

The Southern population was perceived quite differently. During the late 1940s and continuing throughout most of the '50s, the race was declining at an alarming rate. The reason for the precipitous decline was not apparent at first; today we know that chemical contaminants, particularly the widespread use of pesticides such as DDT, were the major cause of the problem. Many states lost their total eagle nesting populations. The spectre of extermination stalked the Southern race. They were listed in 1968 as an endangered species.

The Endangered Species Act of 1973 made it possible to list populations within a species where it is determined to be endangered throughout all or a significant portion of its range. By this time, concern for nesting birds in northern states had been voiced and their status was reviewed in 1974. In many areas they were found to be in even worse condition than their southern counterparts. It was determined that the species as a whole for the conterminous 48 states was indeed endangered throughout most of its range.

The result was that in 1978, both the Northern and Southern races were listed as endangered in all but Oregon, Washington, Minnesota, Wisconsin, and Michigan, where they were considered threatened. With this change, the national inventory procedures became

Typical winter habitat for bald eagles provides necessary protection for survival.

more clearcut.

The Colorado BLM inventory parameters are summarized in four key elements it is to achieve:

1. To identify BLM-administered lands and adjacent areas used by bald eagles.
2. To determine the period and level of use at various locations.
3. To identify the prey base utilized in local areas.
4. To determine buffer zones for tolerance of bald eagles to various types of human activity.

The inventory is an interagency effort involving BLM, Colorado Division of Wildlife (a State agency), the Lower Missouri Region of the Water and Power Resource Services, and the Forest Service. In addition, the University of Northern Colorado has two researchers assisting with wintering bald eagle populations along part of the South Platte River in northeastern Colorado.

The BLM project involves much more than counting birds. During aerial surveys, their location is plotted on a map and information is recorded concerning habitat type, activity of the eagles, presence of waterfowl and carrion near the site, and the eagles' reaction to aircraft. On subsequent ground visits to accessible sites, detailed information is collected regarding vegetation, terrain, and special features of the area. Prey remains also are gathered. Measurements taken from topographic maps are used to determine the distance from bald eagles to human use areas such as highways, railroads, and houses. All of the information is uniformly recorded for each observation to facilitate computer analysis.

There are few nesting bald eagles in Colorado. During most of the 1970s, there were two known active nests in the State, but in 1979 just one young eagle was raised.

Colorado's importance to bald eagles comes in the winter months. The wintering population is the subject of the BLM study. Information collected in January of 1979 and 1980 has been used in the nationwide midwinter counts of bald eagles sponsored by the National Wildlife Federation. The January 1979 total for Colorado was 316 bald eagles and, according to Patsy Goodman, count coordinator, "the 1980 total is approximately double that of 1979. This year's count is likely to be used as the base for future reference." Nancy Green, BLM's bald eagle inventory project leader, cautions that the increase shown in the 1980 count reflects better coverage of the State rather than an increase in the numbers of eagles present.

Prior to the start of the Presidentially mandated endangered species inventory in the winter of 1978-79, Colorado's BLM management policy concerning endangered species on the 7.9 million surface acres it administers was well established. That policy said:

—Conserve those animals, and their habitats, which are officially listed by the Federal government and the State of Colorado as threatened, endangered, sensitive, or uncommon;

—Implement special land-use planning and decision-making processes needed to conserve these species and their habitats on Colorado BLM-administered land . . . and

—Maintain at least the present status quo of threatened and endangered species populations and their habitat with an overall objective of sustaining a viable population level and improving their habitats so they eventually can be removed from threatened or endangered status classification.

To accomplish these policy goals and to comply with the Endangered Species Act, there must be a thorough understanding of the distribution, abundance, and biological requirements of the bald eagle. How many are there? Where are they at different times of the year? What are their habitat and food requirements? What types and levels of disturbances will they tolerate? These questions are only a few that must be answered to arrive at solutions and decide what steps can be taken to assure recovery of our national symbol to the point that threatened or endangered status no longer is needed. Until

recently, only a few biologists were studying the birds, but today many projects are underway, including the Colorado BLM bald eagle inventory, to provide answers to these questions.

Areas of BLM-managed land used by the eagles are generally adjacent to or along rivers and reservoirs. The food resources utilized are varied. In some locations fish and waterfowl are important, at other sites winter-killed big game, carrion and rabbits provide the prey base. A few sites provide all of these food resources. Some eagles also spend the winter in arid valleys far from water.

The mobility of the bald eagle is remarkable. Their numbers in any one location may vary considerably throughout the winter. In February, for instance, there were dramatic changes in a few locations as the birds moved north. The Yampa and Little Snake Rivers in northwestern Colorado are good examples. Where 36 birds were observed on the Yampa River in January 1980, at least 66 were present in February, and the change was even greater on the Little Snake, where 53 were present in March, while only six were observed during the January count.

The winter 1980 inventory coverage was expanded beyond those areas surveyed in 1979. Surprisingly, the distribution of eagles this year was similar to that observed in January and February of 1979. This is of interest since 1979 was one of Colorado's worst winters in this century, whereas the 1979-80 winter was considered to be more "normal." Last year six communal roosts, those sites where eagles gather and spend the night, were identified. The same trees are used year after year. Locating and preserving these sites is of high importance since they tend to be centers of activity. Greater emphasis on locating them in the winter of 1980 resulted in identifying more than 20 additional roosts.

In the multiple use of the BLM-administered lands lies the enormous potential for conflicts. For example, there are eight communal roosts along the ice-locked Yampa River; the eagles hunt in adjacent upland areas to find rabbits and dead deer. The five roosts with the highest usage levels will be eliminated if two dams proposed for the area are built. The impacts of energy development are potentially serious in the same area primarily due to a loss of suitable hunting habitat for the eagles. Coal mining activity, too, is proposed in upland hunting areas adjacent to the roosts receiving the most use by eagles. Whether energy development and bald eagles are compatible is a serious issue facing BLM biologists in many western states.

Ever larger numbers of our living emblem, the bald eagle, are being counted.

Bald eagles show variable responses to disturbance. Regular use of roosts and feeding areas was observed 1,000 feet from highways and farm houses in several places. Generally the eagles are tolerant of moving vehicles but they usually fly when a vehicle stops within one-quarter of a mile.

The eagles sighted, counted and studied by the Bureau of Land Management inventory team are just a few of the many who winter in the lower 48 states. The wintering habitat, and its ability to provide proper nourishment and reasonable protection for survival, will send the birds back, physically fit, to their prime nesting areas. The state of the birds' health and food intake during the winter has become recognized as being of equal importance with the preservation and protection of its nesting habitat.

Humans and wildlife find themselves in ever-shrinking environments. A broad base of citizen and government concern demands application of realistic guidelines to the utilization of all of this nation's resources. At the same time, there is a recognition that reasonable constraints are necessary to maintain or enhance a way of life. The key to meeting these demands rests with bringing to the public an awareness that we need to look at, and deal prudently with, all of our natural resources.

THE EXPEDITION

From St. Louis to the Mandan Villages

PAUL HERNDON
Office of Public Affairs

When Lewis' exploration party entered into the mouth of the Missouri River, on May 4, 1804 it had officially entered the newly acquired Territory of Louisiana. Soon after that, they were in a land virtually unknown to most Americans.

However, they were not the first white men to arrive. The French had established trade with the Indian tribes along the Missouri by 1724, and by 1740 English traders from South Carolina had crossed the Mississippi River. After the English conquered Canada, their traders, operating through the Hudson Bay Company and the Northwest Fur Company, were soon active in the area. The Spanish had also explored out of Mexico as far north as what is now Montana.

Evidence of this penetration of the Missouri River valley was soon apparent to Lewis and his men. As they struggled against the currents of the River, they encountered a number of trappers coming downstream to sell their furs in St. Louis. One of these, a trapper named Pierre Dorin, turned around and accompanied Lewis upstream to a meeting with the Sioux held in mid-August.

Within the valley, it was the river that dominated the landscape. Geologically speaking, it was a young river, and with the impetuosity of youth, it prowled about within the confines of its valley, carving new channels, and devouring islands and sandbars with insatiable greed. Years later a writer would describe the Missouri as "one river that goes traveling sideways, that interferes in politics, rearranges geography, dabbles in real estate, a river that plays hide and seek with you today and tomorrow follows you around like a pet dog with a dynamite cracker tied to its tail."

On the river nothing was permanent, nothing was secure. One night Lewis and his men were awakened just in time to reach their boats before the sandbar they were sleeping on dissolved under them. The exploration journals make frequent reference to high banks collapsing as the boats passed. Every inch of upstream progress was made over the objection of the river. There were few miles that did not require men to drag boats and baggage across sandbars, or over sunken tree trunks called "sawyers."

In moving the boats, the men used whatever worked. When the wind was right, they rigged sails, but because of the twists and turns of the river, this method of propulsion could not be used for more than short stretches. Poles and oars were used whenever practical, but the most reliable method of moving the boats was to put men out on the banks to pull the boats with long ropes. This was called "cordelling," a French term that had been adopted by American boatmen. Cordelling was hard work for the men on shore. Thick undergrowth hindered progress and rough terrain offered no sure footing. Men would be forced to climb over boulders, or wade along the bank of the river, sometimes in water up to their armpits. In the journals, Lewis expressed his admiration for the good humor with which his men met this gruelling task.

Along the banks they found deep, fertile soil. At times the grass, weeds and vines formed tangled masses that the men on foot could not penetrate. There was no lack of food on this lap of the journey. Game was abundant and varied. They had some trouble with grizzly bears. If we can believe the Journals, the grizzly, North America's largest carnivore, was one of the few animals that would attack men without provocation.

One unexpected feature of the country was the lack of Indians. Lewis had been charged with the mission of telling the Indians that they were now subjects of the United States, and he eagerly sought his first opportunity to do so. Although he sent out scouts, it was mid-July before they found the first Indian.

While Indians appeared in overwhelming numbers at times, they were never a numerous people. Naturally there are no reliable population figures on the number of Indians in North America before the coming of the white man. One authority has estimated that, at the time of Columbus, there were only 850,000 in that part of the continent north of Mexico. This figure may

The great differences between the cultures of the the European and the Indian became clear when the Chief of the Arikara spoke out in protest over the humiliation of flogging and told Lewis he thought death would be a less offensive punishment.

be too conservative, but the highest estimate the author has found sets the total for the same area at 3½ million. At the time Lewis and Clark were ascending the Missouri, it has been estimated that there was less than one Indian family per 50 square miles in the Missouri River Basin.

After leaving St. Louis on May 4, 1803, the party stopped briefly at the upstream settlements of St. Charles and La Charrette. La Charrette, a seven-house community with perhaps 40 families living in the vicinity, was the last white settlement on the Missouri. It was also the home of Daniel Boone, who then lived a few miles from the main settlement. He was 70 years old and still vigorous. (He would live to be 95.) But if Lewis knew that the old pioneer was nearby, he made no attempt to contact him.

On August 2 the party finally managed to contact a small party of Indians. They called the site "council bluffs," but the location was nearer to present day Sioux City, Iowa than to the present day Council Bluffs. The meeting lasted for two days.

Shortly after the meeting, the party suffered its only casualty when Sargent Charles Floyd died. From the description of the Sergeant's illness as recorded in the Journals, we can guess that he died of appendicitis—a condition that would have likely proven fatal at that time even if he had received the best medical care.

In mid-August Lewis had his first meeting with the Sioux. Things went so well that he found it hard to believe these Indians deserved their reputation as the scourge of the Plains. He changed his mind a few days later when a second party of Sioux tried to bar his passage upriver. Only a determined show of force averted an attack that might have wiped out the expedition.

From there the party moved up river to be well received by the Arikara. The Arikara had heard about the standoff with the Sioux and were kindly disposed toward anyone who had discomforted their ancient enemies, the Sioux. While Lewis and his party were camped with the Arikara, an incident took place that aptly illustrated the gulf between European culture and that of the Indians.

Lewis, a strict disciplinarian, had ordered one of his men to be

flogged—a measure of discipline that was common among military organizations all over the world at that time. However, the Chief of the Arikara was horrified, and cried out in protest over such humiliation. Recognizing the need for good will from all Indian tribes, Lewis explained the nature of the man's offense and the necessity of punishment. The Chief readily agreed that the man richly deserved to be punished. Lewis then asked the Chief what kind of punishment he would order under the same circumstances.

"I would kill him," the Chief replied.

In early November, Lewis made winter camp among the Mandan Indians. As a tribe, the Mandans were unusual among the plains Indians. They lived in villages and had a highly developed system of agriculture. Because of their light colored skin, eyes and hair—blue-eyed blonds were not unusual among them—many whites believed that they had descended from some race of white men. Today most anthropologists agree that they were solely light-skinned Indians; never the less speculations about their European origins surfaces from time to time.

Throughout the history of the tribe, the Mandans maintained friendly relations with the whites. When Lewis and his party arrived they found a number of French-Canadian and British traders and trappers living in the Mandan villages. He firmly reminded them that they were on United States soil, and then assured them they were welcome to continue their trade so long as they remembered that fact.

The winter was a busy time for Lewis. After his men constructed winter quarters, he had opportunity to use his diplomatic skills. He was in frequent contact with representatives of both the Hudson Bay and the Northwest Fur companies. Both of these companies were British controlled and operated from Canada, but they were bitter rivals. Traders from the older Hudson Bay Company contemptuously referred to the Northwestern men as "Peter Ponds Peddlers," and the Northwestern men said the initials HBC, stood for "Here Before Christ." Both groups had been zealous in their efforts to establish their presence in the Missouri Basin. There can be little doubt but that Lewis' efforts went a long way to forestall British penetration into the area.

His diplomatic efforts did not neglect the Indians. He presented a grist mill to the Mandans. Their elation over the gift caused him to wonder about their fondness for corn meal. Later he learned that the enthusiasm stemmed from their anticipation of breaking up the mill so the metal could be used for making weapons and other tools. He scored another diplomatic coup when he had John Shields set up his bellows to hammer out weapons and mend tools for the Indians. Lewis used the winter to establish excellent relationships, not only with the Mandans, but with neighboring tribes as well.

This did not include the Sioux. Unknown to Lewis, the Sioux had met in Council that winter and declared war on the expedition. Fortunately Lewis and his party would be long gone before the Sioux could get their war party organized the following spring.

From among the French Canadians wintering with the Mandans, Lewis hired two men. Baptiste Lepage was hired because of his skill as a boatman. Toussaint Charbonneau was hired as an interpreter.

While the addition of two men to the roster was only routinely noted in the Journals, the hiring of Charbonneau was to give birth to one of the enduring American legends. For reasons not altogether clear, Lewis agreed to allow Charbonneau to bring one of his Indian wives along on the journey. Historians have since speculated about Lewis' motive for this, but no completely satisfactory explanation has ever been offered. From all that is known about Lewis, this seems to have been out of character.

At that time Charbonneau had three Indian wives, but selected the youngest, a 17-year old Shoshone girl named Sacajawea to accompany him to the Pacific Ocean and back.

Lewis showed his concern for propriety by having William Clark perform a marriage ceremony over Charbonneau and Sacajawea. Presumably, pious Easterners could have questioned Clark's authority to perform such a ceremony, but Lewis had done his best, under difficult circumstances, to cloak the presence of a woman in the party in an air of respectability. If Charbonneau or Sacajawea had any thoughts about the matter, no one has bothered to record them.

During the winter Lewis had ample opportunity to practice using the medicines that Doctor Rush had provided. (See "Getting Ready To Explore the New Territory" *Our Public Lands*, Summer 1979.) His "doctoring" was mainly confined to treating the illnesses of his men, but he did amputate the toes of an Indian boy suffering from a severe case of frostbite. Shortly after that his skills were sorely tested when Sacajawea gave birth to her first child. It was a difficult birth and Dr. Rush's medicine chest contained nothing for the treatment of women. Lewis was helpless until a French-Canadian trapper named Jusseaume suggested a folk remedy. Following the suggestion, the desperate Lewis found a set of rattlesnake rattlers, powdered two sections and gave the powder to Sacajewa in water. Whether a result of the medicine, or whether her time had come, Sacajawea delivered the child and named him Jean Baptiste. Lewis duely recorded the treatment for the benefit of Dr. Rush.

During that same winter William Clark used his time to gather every scrap of information he could glean from Indians or trappers about the upper Missouri. One of the Mandan Chiefs named Big White was especially helpful by drawing reasonably accurate maps in the dirt. Clark copied these onto paper and incorporated them into his own hand-drawn charts.

Some of these charts included the area now known as Yellowstone National Park. Some believe these charts may have influenced John Colter who was to become the first white man to visit the area several years later.

Public Land Sales

Tracts of public land are sold by the State Offices listed on this page. Sales are held only when land use planning indicates that the public interest will be better served by disposal of the tract in question. In light of the time involved in preparing, printing, and distributing this publication, it is impossible to report on all sales far enough in advance to give most readers an opportunity to participate. However, notices of sale will be published in the Federal Register and in local newspapers serving the community where the land being offered is located. These notices will appear at least 60 days before the sale. Currently, the only States authorized to conduct auction sales are Nevada and Wyoming.

STATE OFFICES

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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Box 13
Anchorage, AK 99513

ARIZONA:
2400 Valley Bank Center
Phoenix, AZ 85073

CALIFORNIA:
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2800 Cottage Way
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COLORADO:
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Denver, CO 80202

STATES EAST OF THE MISSISSIPPI RIVER, PLUS IOWA, MINNESOTA, MISSOURI, ARKANSAS AND LOUISIANA:
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Alexandria, VA 22304

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136 East South Temple
Salt Lake City, UT 84111

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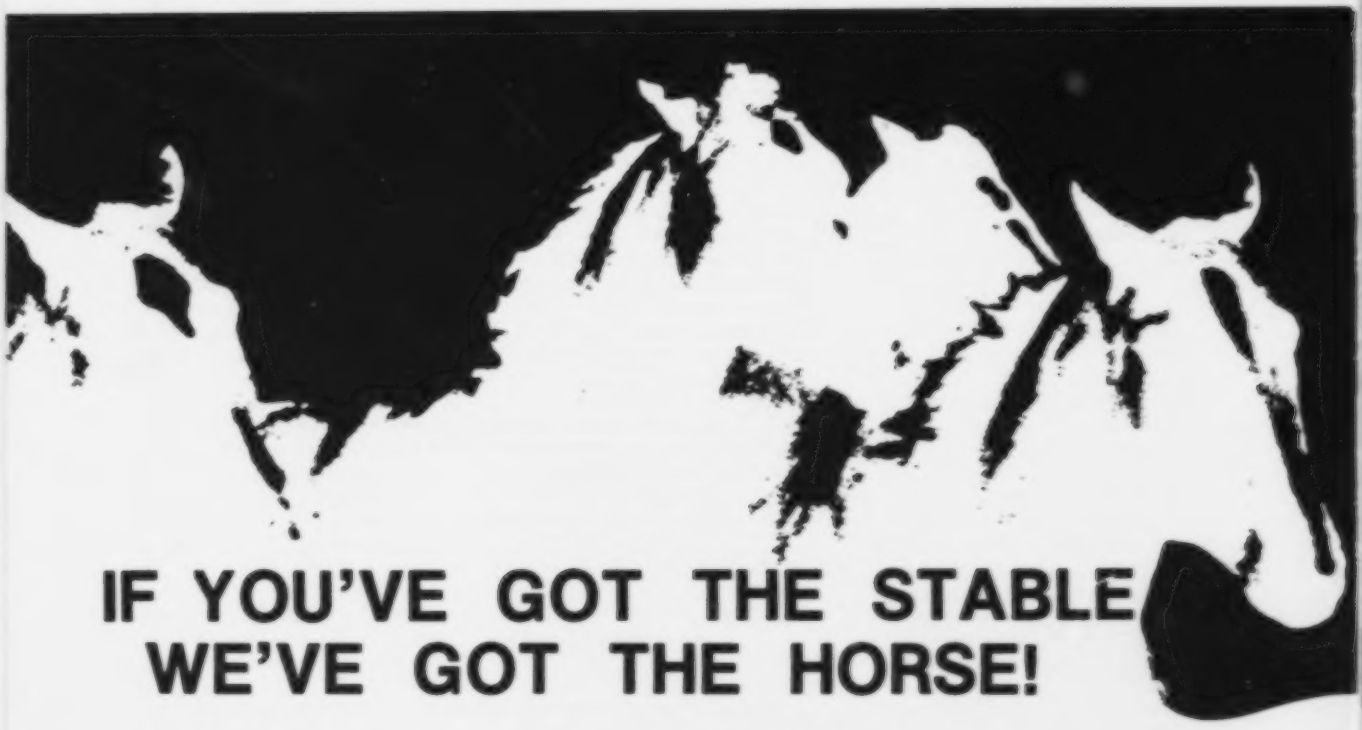

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Our Public Lands

Fall 1980

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The California Desert
Resolving Conflicts

Fall 1980
Vol. 30 No. 4

Our Public Lands

U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

As the Nation's principal conservation agency, the Department of the Interior has basic responsibility for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of America's "Department of Natural Resources."

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States—now and in the future.

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The California Desert Plan

A Pacesetter for Future Management of Public Lands

James Ruch

In 1981, the Bureau of Land Management is launching one of the most unique multiple use programs ever attempted in the United States—implementation of a comprehensive land use plan for the California Desert.

As directed by Congress and two Administrations, the California Desert Plan will guide the long term use of desert resources, including minerals of national and international significance; it will provide many kinds of recreational opportunities and assure desert wilderness experiences for future generations of Americans.

The plan applies to a land area equivalent to the size of Ohio, covering 25 million acres. Included are 12.1 million acres of public land administered by BLM.

The area abounds in historic, scenic, archeological, biological, cultural, scientific, educational, recreational and economic resources. There are a number of rare and endangered species of wildlife and plants, some of which are found only in the California Desert Conservation Area.

Conflicts between the uses of these resources have been boiling in the area for many years. This is most sharply portrayed by groups who advocate high levels of resources use and by those who

want extensive preservation.

Some areas have suffered considerable environmental damage during the last two decades. ORV's have broken desert pavement and accelerated erosion. Vandals have developed thriving black markets by blasting away and selling petroglyphs, which are images scraped on rock during prehistoric time. Unique desert vegetation has been stolen for illegal commercial ventures.

It is an extremely sensitive area where scars can remain a long time. For example, there still are ruts from wagon crossings more than a century old. Patton's tank tracks, made while training for World War II's North Africa campaign, also are visible.

There are vast areas of remarkable wilderness value in the desert. Forty-five sites totalling a little over two million acres are proposed for inclusion in the National Wilderness Preservation System. At the same time, much of the 15 million visitor use days of recreation in the area annually come from off-highway vehicle play. Ninety-five percent of the desert is within three miles of a road or way, making it one of the most accessible deserts in the world. And it is within easy driving time for 12 million people. Mineral resources have an estimated in-place value of between $200 and $600 billion. Cultural resource inventories indicate the presence of more than 100,000 prehistoric and historic sites.

There are conflicts on some lands between wildlife and livestock grazing. In other areas, conflicts arise from the proposed routing of electric transmission lines and water and fuel pipelines through areas of high scenic value.

Within the area are 100 communities with 500,000 people, eight county governments, numerous State and Federal agencies and 37 Indian reservations. The total planning area contains seven major military bases, 15,000 miles of paved and maintained roads, 11 power plants and 3,500 miles of transmission corridors.

The enormous increase in use and the deepening conflicts are the forces behind developing a comprehensive long-range plan that would cover the entire desert area—private and public. In 1976 when Congress adopted the Federal Land Policy and Management Act (FLPMA), it also created the 25 million acre California Desert Conservation Area (CDCA).

The Act called for completion by 1980 of a comprehensive, long-range plan for management, use, development and protection of the public lands in the area, applying the concepts of multiple use and sustained yield.

Four years and $8 million later, the Bureau has completed extensive resource inventories, an Environmental Impact Statement, and a plan for an area that stretches from Death Valley to Mexico and from the Colorado River to the Los Angeles Basin—one-fourth of California's total land area.

The Plan, approved by the Department of the Interior in December 1980, was developed under the full glare of public scrutiny and participation, often in cross-fire situations. Draft alternatives for the plan were presented early in 1980 for three months of public review and comment. The process included 12 public hearings. Public input was voluminous—40,000 separate comments from across the nation. Analysis of these comments was audited by a committee from the California League of Women Voters to assure impartiality and fairness.

Public comment identified many issues and caused changes in every major element of the plan. For example, on the wildlife issue, changes call for the expedited removal of 10,000 excess burros which threaten native wildlife values, and increased protection of bighorn sheep and the desert tortoise.

The Proposed Plan and Final EIS were released September 30, 1980, for a 50-day public review and comment period. Another series of 12 public hearings was held throughout California, and BLM received more than 3,000 responses. The final plan reflects an unprecedented amount of

public input and involvement in its preparation. A number of changes were made as the result of public input in the last comment period. Some of these are:

—The number of areas to receive special management as Areas of Critical Environmental Concern (ACECs) was raised from 73 to 75 with total acreage of 655,066.

—A key open area for off-road vehicles was added for a total of nine such areas, in addition to four major sand dunes and three major dry lakes, comprising 505,000 acres.

—The East Mojave Scenic Area was designated to recognize and provide management for one of the Desert's most scenic areas in response to public input.

—As a special response to the need to develop the important mineral resources of the desert, a change is being proposed to the Surface Mining Regulations that would streamline the requirements for mining operations in the "Moderate" and "Intensive" multiple-use classes. This would be especially helpful to the many small miners who commented on the Draft and Proposed Plans.

—The number of areas recommended as suitable for wilderness was increased from 43 to 45 with a total of 2,099,000 acres.

The California Desert Plan is one of the most far-reaching regional plans ever undertaken in the United States. It is designed to provide management guidelines well into the next century, yet contains flexibility for changes to meet unforeseen needs. It was prepared on the ground with the involvement of a broad spectrum of desert users; it strikes a remarkable balance between society's demands for resource goods and services and protection of unique and fragile public values.

Implementation of the Plan—at the recommended rate—will cost an estimated $180 million during the first 10 years. That's less than $1.50 per acre a year. The California Desert Conservation Area Advisory Committee, which has worked with BLM every step of the way in the development of this plan, has recommended that

BLM move promptly to implement the plan.

The Plan allocates the 12.1 million acres of public lands into geographical areas with varying kinds of intensive use. There are four such major designations called "Multiple Use Classes." These classes and the amounts of acreage allocated to each are:

Class C (Controlled Use): 2,099,000 acres (17.3 per cent of the total). Lands in this classification are being primarily recommended as suitable for wilderness designation by Congress.

Class L (Limited Use): 5,883,000 acres (48.5 per cent). The purpose of this class is to protect sensitive natural, scenic, ecological and cultural resource values. These lands will be managed to provide generally for low intensity, carefully controlled multiple use, and development of resources, while ensuring that sensitive natural values are not diminished.

Class M (Moderate Use): 3,336,000 acres (27.5 per cent). This class is based on a controlled balance between full use and full preservation. Its purpose is to provide for a wide variety of present and future uses, including mining, grazing, recreation, and energy and utility development. It is designed to conserve resources and mitigate damage to resources which permitted use may have caused.

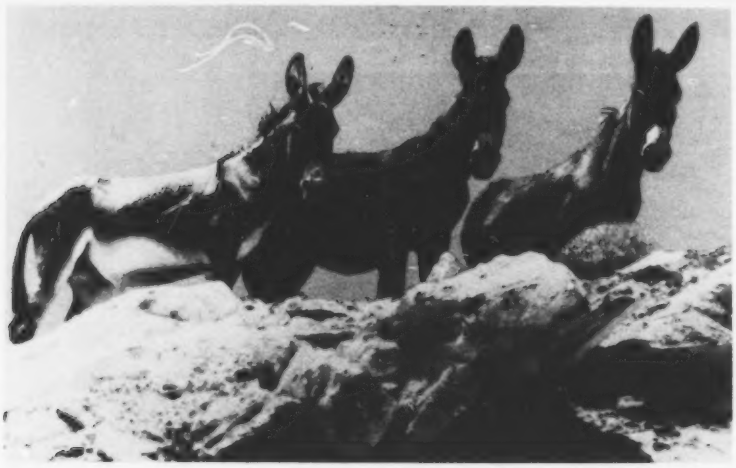
Class I (Intensive Use): 499,000 acres (4.1 per cent). This class provides for concentrated use of lands and resources. Reasonable protection will be provided for sensitive natural and cultural values. Mitigation of impacts and rehabilitation of impacted areas will occur insofar as possible.

A total of 314,000 acres (or 2.6 per cent) are unclassified. These are isolated, scattered tracts which later may be sold, transferred to other ownerships, or exchanged. The tracts will be more closely examined before disposal actions are taken.

A major component of the Plan is defined as "elements"—the 12 major resources or issues of public concern, as identified in public review. These elements are: Cultural Resources, Native American Values, Wildlife, Vegetation, Wilderness, Wild Horses and Burros, Livestock Grazing, Recreation, Motorized Vehicle Access, Geology-Energy-Mineral Resources, Energy Production and Utility Corridors, and Land Tenure Adjustment.

For each element, the plan contains a statement of goals, management actions proposed, a program for implementation, and a system for monitoring impacts.

Implementation of a plan of this scope is a great challenge. There are no comparable land use plans from which to draw experience. Making the plans work in the face of conflicting demands and changing conditions will require creativity on the part of BLM and the public. But we start with a well-known fact: the concerns and the interests of the public have been recognized, and many of them have been molded into the plan. This, in itself, helps assure success as we begin making the plan an on-the-ground reality.



James B. Ruch is BLM California State Director.

The Margin of Life

Paul Herndon

A large part of the land administered by the Bureau of Land Management is arid or semiarid desert. Water is almost always the limiting factor in the use and enjoyment of these lands. Yet, even in the driest desert, water in some form may be available. Streams crossing the public lands total more than a quarter million miles and there are five million acres of lakes and reservoirs. Springs and seeps may provide moisture in arid areas.

Both Indian and settler understood the importance of these streams and lakes as a source of water, but the shorelines were further appreciated for the narrow strip of vegetation which could be found along the stream bank or shoreline—the area which we call "the riparian zone" or "riparian habitat."

Riparian habitat may be defined as that narrow strip of vegetation along a water course or shoreline where the soil may be permeated by water during some part of the year. Because of the increased moisture some plants are present that would not be able to survive in the drier soils, while other plants, which are also present in the drier soils, are more vigorous. These plants provide shade and food that make the riparian habitat attractive and essential to a wide variety of animals, including man.

The Bureau is responsible for protection and management of about 500,000 acres of riparian habitat (excluding Alaska). For many plants and animals, this narrow margin, which may vary in width from a few feet to a few miles, is truly the "margin of life". Without this habitat, animals solely dependent upon it would not be able to survive the harsh desert environment.

Although riparian habitat makes up only a small part of the total acreage of the public lands, it always receives a disproportionate amount of use when compared with surrounding areas. This habitat provides water, food and cover to both domestic and wild animals.

Riparian habitat also provides fishing and hunting areas and camping sites. Roads tend to fol-

(Upper left) Leftovers of ancient riparian zones, TRONA PINNACLES, a BLM recreation area about 100 miles northeast of Los Angeles. The pinnacles are remains of algae that lived around springs in an ancient sea. (Lower left) Vegetation grows in the riparian zone of this stretch of the Green River in Utah.

low stream courses because road construction through the valley bottom is often easier and cheaper than crossing numerous side drainages. The action of some western streams in concentrating gold make them attractive sites for mining operations.

Because riparian zones are more heavily exploited than surrounding areas, over 90 percent of the historical riparian habitat has been destroyed, and the remainder is in a deteriorated condition. The same things—water, food and cover that make the area so attractive to both man and animals contribute to their destruction. Damage is caused by livestock and wildlife overgrazing and trampling, which compact the soil and break down stream banks; road construction; placer mining, and recreational use.

Most plants are able to withstand the loss of some foliage during their growing season. Thus, a moderate amount of grazing by livestock or wild animals will not significantly interfere with the continued growth and well-being of the plant. But overgrazing, by definition, goes beyond the removal of that amount of foliage which is within the tolerance range of the plant and when such heavy grazing continues, the plant loses a substantial amount of its vigor and may eventually die.

Anyone who has followed a footpath through the woods has seen how the passage of many feet will eventually wear away vegetation covering the ground, thus leaving a trail of hard-packed soil to mark the way. In the same way, the passage of so many sharp hooves can destroy vegetation, compact the soil within the riparian zone, and destroy the stream banks.

Human use also contributes to the deterioration of riparian zones. In addition to seeking out riparian areas because of the food, shade and water they offered, many settlers depended on these areas for wood and timber. Today riparian zones provide sand and gravel needed for construction far beyond the immediate area, and they are popular for the recreation they offer.

We still do not know as much as we would like to know about the ecology of riparian zones. The ecology of any area is always complicated and may not be fully understood even after years of careful research. The interlocking role of hundreds, if not thousands, of species of plants and

Because of the water, plants flourish along these streams that would not be able to survive in drier soils characteristic of adjacent areas.

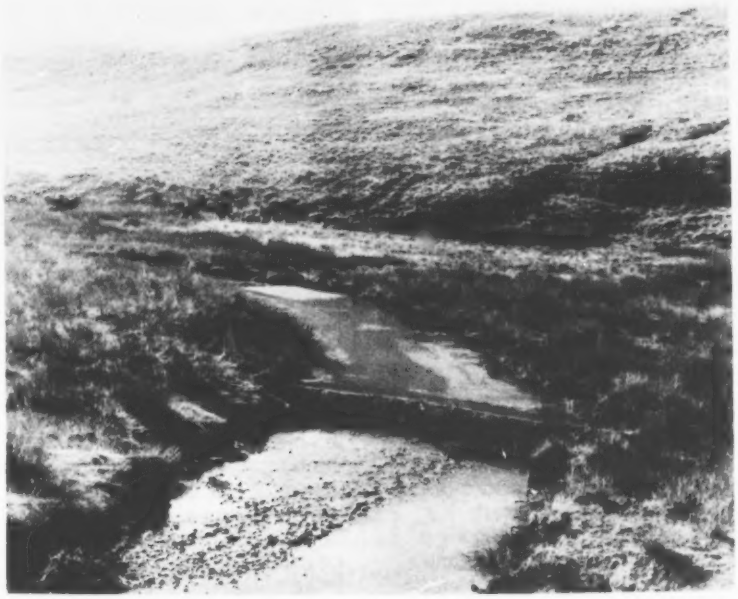
animals may be compared to a spider's web where each strand exerts an influence on the total function of the web.

Understanding the ecology of riparian zones is complicated even further by the fact that no two areas are exactly alike, and different segments of the same stream may host totally different plant communities.

Certain things, however, seem to be consistent. The water which is readily available to plants causes a profusion of plant life that tends to modify the extremes of hot and cold characteristic of more open spaces. Plants tend to stabilize the soil, holding it in place with their network of roots and protecting it with their foliage from rain and wind.

As the water makes possible the growth of plants, the plants in turn exert an influence on the water.

The influence is particularly pronounced on streams. The shade of the trees and shrubs along the bank keeps the temperature of the water lower in summer. For example, 61 degrees F. was the highest temperature ever recorded for the water in Needles Branch of the Alsea River in Oregon until all of the streamside vegetation was removed as the area was logged. In succeeding summers, the water temperature reached 85 degrees. This was gradually lowered, however, as new vegetation became established.



Water temperatures are critical to fish life—especially for trout. In the West this becomes a major concern for land managers since trout are easily the fish most popular with anglers.

The effect of water temperatures on fish is one of the more dramatic evidences of habitat deterioration, because fish are important to people. But the damage done to fish is also done to many species of plant and animal life that make up the biota of the stream.

As streamside vegetation is destroyed, the total character of the stream changes. Banks cave in and fall into the water, the nature of the bottom may change from gravel to mud, the channel of the stream tends to straighten out and the stream becomes wider. This decreases the depth of the water. The increase in the sediment load, like temperature, has an adverse effect on trout. Sediment fills the spaces between the gravel on the bottom where trout eggs are normally incubated.

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Studies show that the mortality of trout embryo may exceed 75 percent when the sediment load reaches 200 parts per million.

Although the destruction of riparian vegetation has a more dramatic impact on small streams, it also impacts larger streams, lakes and reservoirs. Lakeside vegetation may provide food and cover for a variety of wildlife. This would include nesting cover for waterfowl and other birds.

When livestock is allowed to wade into the water to drink, it affects not only the quality of the water but destroys aquatic communities that use shallow areas for feeding and for reproduction.

The Bureau considers the protection of riparian habitats a vital part of the total management program for the public lands. Riparian management must fit into the Bureau's multiple-use mission for the public lands. Multiple use means that all users must be accommodated as far as possible. But the Bureau also has a responsibility to protect the resource, and the antidote to over-use is less use. Where it becomes necessary to maintain the integrity of the resource, the Bureau may have to prohibit some uses altogether.

October 1, 1979, the Bureau published and sent to the field manual guidelines pertaining to the management of wetlands and riparian areas. The purpose of the guidelines was to set forth the Bureau's basic policy and procedures for the protection and enhancement of riparian zones and wetlands and to point out ways that field managers can meet the policy objectives.

The guidelines require district managers to inventory and map all wetland-riparian areas within their area of jurisdiction. Riparian data collected during the inventory will be analyzed and evaluated through the Bureau's land planning system. Through planning and environmental assessment, the impact of Bureau actions on riparian zones will then be identified.

Stated in the simplest terms, the guidelines require district and area managers to prevent harmful uses of riparian zones as much as possible. When damage cannot be entirely prevented, the district manager takes whatever measures necessary to minimize damage and makes every effort to restore areas to their full productive capacity as soon as the cause of damage is removed.

For example, let us suppose that a district manager receives an application for a road right-of-way paralleling a stream and where the right-of-way is largely or totally within the riparian zone of that stream. Under the guidelines, the manager will first see if the applicant can be accommodated by relocating the road—moving it back from the stream and out of the riparian zone. If the alternate route proves to be impossible or impractical, he may next try to incorporate stipulations into the right-of-way agreement to ensure that the road will be designed and constructed in a way that causes the least possible disturbance to riparian vegetation, and the least possible damage from sedimentation and other adverse impacts.

Where streams flow through woodlands, the guidelines suggest that managers establish buffer strips to prevent trees near the banks from being cut or eroded. The shade and cover provided by the buffer strip will help maintain the temperature and quality of the water and prevent excessive sedimentation and channel erosion. Where buffer strips cannot be maintained, the manager can make mitigating stipulations a part of future timber sale contracts. Such stipulations can require the timber operator to remove branches, residue and other obstructions from the stream, prohibit logs from being skidded across or down stream channels, and require heavy equipment to cross the stream at designated locations.

Other suggested management practices contained in the guidelines include:

- Moving mining operations away from streams and riparian areas
- Dropping fire retardants parallel to rather than across streams and riparian areas
- Constructing fire lanes to minimize erosion and siltation within the riparian area
- Confining recreation areas to specific segments of the riparian zone and designing such areas to have the least possible impact on the area
- Using fencing to protect areas that are especially sensitive to the encroachment of livestock and wildlife
- Designing culverts and drainage ditches so they will have the least possible impact on existing drainage patterns and to prevent blockage of migrating aquatic animals
- Installing riprap fills around culverts and other structures to prevent erosion
- Preventing interference with the natural channel of the stream as much as possible

The guidelines encourage managers to protect riparian areas through the use of withdrawals, designation of Areas of Critical Environmental Concern and through the development of wildlife habitat management plans.

In reaching decisions about the management and protection of riparian zones, district managers keep the following criteria in mind:

- Mitigating measures are to be both possible and practical.
- They are to be consistent with the Bureau's planning system and with those of State and local governments.
- They should not cause additional adverse impacts on the riparian habitat.
- They should have the support of Bureau officials and other Federal agencies, and they should be enforceable.

All decisions on the protection and management of riparian areas will be made only after full public participation.

Paul Herndon is a Public Information Specialist in the Office of Public Affairs, Bureau of Land Management, Washington, D. C.

The Historic Iditarod

A Silent Possession of America's Vast Heritage

Joette Storm

Almost 100 years ago, when the first wave of gold seekers was pushing into Alaska's interior, trails were blazed through the thick spruce forests and hummocky tundra. Soon the trails were connected and extended as adventure seekers and entrepreneurs came north. What developed was a 1,600-mile trail system spanning Alaska from Seward to Nome, that would come to be known as the Iditarod.

From gold rush trail to mail route to modern-day dogsled race trail, the Iditarod has had far-reaching effects on broad patterns of American culture for three-quarters of a century. In the 18th century the trails were used by Russian explorers, trappers and native Alaskans whose history was unrecorded. In 1978, Congress recognized the Iditarod as part of the national heritage and designated it as a National Historic Trail in the National Trails System.

With the elevation of the trail to national status came responsibility for the Bureau of Land Management which included the development of a management plan for the trail, the compilation of its history, and an inventory of all sites and structures located adjacent to the Trail. This task is being accomplished by a special

project team in BLM's Anchorage District Office. The team is locating the original trail on the ground, researching old cabins and roadhouses, compiling an oral history and preparing a comprehensive management plan for the State, Federal, native and local land managers to use in the management of this historic route. The management plan includes standards for trail marking and maintenance as well as restoration and stabilization plans for the roadhouses which remain along the trail.

While much is known about the trail, there is still a lot of mystery surrounding it. The southern portion of the trail was first developed in the late 1880's. Gold strikes on Alaska's Kenai Peninsula brought itinerant miners aboard steamships and schooners to Valdez and Whittier where they would embark upon dangerous journeys across mountain passes. In 1903 the Alaska Northern Railroad was constructed at an ice-free port named for William Seward, the Secretary of the Interior who purchased Alaska. Seward became the funnel through which thousands entered Alaska.

During the same period, at the northern end of the route, the goldbearing sands of Nome beach drew thousands of people. In 1898, news of a strike at Anvil Creek, near Nome, sent miners from the Canadian Klondike down the Yukon River to Kaltag and around Norton Sound. Nome quickly grew into Alaska's richest mining district with a population of 12,488 by 1900.

As traffic on the trails increased, the Alaska Road Commission decided to survey the trail and provide a direct route between the two cities. In 1908 a survey party led by W.L. Goodwin began placing tripods and cutting trail along the route to mark the way.

Almost as fast as the trail was surveyed, enterprising young men and women began staking out sites for roadhouses along the way. Spaced about a day's journey apart, these inns were important to the gold seekers for they meant a warm fire, shelter and a hot meal after a day on the trail when temperatures could reach −50 degrees.

Iditarod's turn to attract the attention of the world came while Goodwin was still about his work. On Christmas Day 1908, two prospectors struck gold on Otter Creek, a tributary of the Haiditarod River. The formation of the Iditarod mining district followed with the influx of people. It was a rich district with four towns and 2,500 people working in the mines or in support services. In one short decade almost three million dollars in gold was brought out over the trail named for the district.

Mail and supplies continued to be transported by dogsled during the next few decades. In 1925 the trail's significance as a life line for the interior communities was emphasized when the town of Nome was threatened by a diptheria epidemic. A relay of 20 dog mushers and their teams rushed precious serum 674 miles from Nenana to Nome in a record 127 hours during the cruelest of winter conditions.

That was the trail's last great moment, for air transportation would supplant the dog team in the coming years.

Much of the trail fell into disuse. Over time, dense vegetation of the tundra reclaimed the route. Goodwin's survey was lost, but no one seemed to care.

The Iditarod's future took a turn upward in the 1960's when a local dog musher named Joe Redington began organizing a race to commemorate the serum run. Redington researched the trail's location and formed a

Many factors contributed to the development of the Iditarod; depicted are a few.

group of "trail blazers" to relocate it on the ground.

It was Redington's effort that brought the trail to the attention of U.S. Senator Mike Gravel. Gravel saw to it that the Iditarod was included in a Federal study of gold rush trails being conducted by the Bureau of Outdoor Recreation.

That study paved the way for the Iditarod to be named to the National Trails System and for the creation of the BLM project team.

The project team's job is to come up with a plan for identifying and protecting the historic route. It is a task made difficult by the fact that more than 70 percent of the land on which the trail is located is State or privately owned and subject to the pressures of a growing society.

The job requires a lot of coordination. Much time is spent consulting with other agencies and interest groups and with the formation of an advisory council.

The work received a big boost early in the project when the staff was joined by Patty Friend, an Iditarod racer who participated in the 1978 dog sled race. Friend made contacts with the dog mushers' association, the native villagers and others interested in the fate of the trail, and explained to them what the planning process would mean for the trail.

"Some folks, such as the miners, were concerned that national trail status would mean a loss of access to their claims," Friend said.

Where the trail crosses lands destined for ownership by Alaska's natives, easements were reserved for public use, but on lands owned by the State, or where the location of the trail is unknown, the matter of preservation is not as certain. Terry O'Sullivan, another project member, has been working with the Alaska Department of Natural Resources to insure the historic trail is identified so that the State has the information necessary to reserve adequate corridors before the land is disposed of for homesteads and other private uses.

Three seasonal employees are collecting an oral history, locating historic sites and trail segments and attempting to determine the significance of the sites through research. One of these employees, Steve Peterson, who served as exhibit specialist on BLM's restoration of Fort Egbert at Eagle, Alaska, has covered hundreds of miles of trail locating the remains of roadhouses and cabins. He is preparing restoration and stabilization recommendations for the sites.

Researching the significance of the sites has proven a challenge for the project team since not much of the Iditarod's history is written. Staff member Tom Beck is gathering an oral history of the trail, visiting villages and settlements along the route.

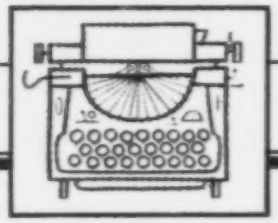
There are still a few early pioneers alive who can recall firsthand knowledge of the trail. But their numbers are diminishing. Many have died and others have left Alaska to retire in more moderate climates.

Beck is even traveling to Canada for a meeting of the Alaska Yukon Pioneers to record the conversations of some of its members.

"Those we have located are wonderful sources of knowledge and they contribute greatly to the tradition we have been able to assemble about the life on the trail during a very exciting time in the development of Alaska and the United States," said Beck.

A variety of interesting scenery and historical sites will greet the traveler along the Iditarod.

Joette Storm is a Public Information Officer in the Bureau of Land Management's District Office in Anchorage, Alaska.



News Highlights

Special Energy Projects

Two agencies in the Department of the Interior are cooperating in efforts to harness the power of the winds to help ease the Nation out of its energy difficulties. The Bureau of Land Management is studying a proposal by a privately financed firm, Windfarms, Ltd., of San Francisco, to build a windmill energy system in Southern California. The Bureau, which manages the lands involved, has begun environmental studies on the proposal which hopes to supply local utilities with up to 320 megawatts of electrical power, equivalent to the energy available from one million barrels of oil.

The Water and Power Resources Service (formerly the Bureau of Reclamation), is conducting a feasibility study, involving the integration of windpower, with the Colorado River Storage Project hydroelectric system at Medicine Bow, Wyoming. Hamilton Standard Company of Connecticut is constructing a four megawatt generator for the Service which will produce electricity that would be sufficient to meet the needs of about 1,200 families.

The Alaska Lands Measure

Nine years of bitter struggle over how to use the vast Federal lands in Alaska have ended. The historic Alaska land legislation was finally accepted by the House of Representatives and signed by the President on Dec. 2. The measure places more than 104 million Federally-owned acres under various forms of permanent protection, chiefly in national parks and national wildlife refuges. These lands may eventually rank with Yellowstone and Glacier National Parks as precious natural heritage.

Oil Shale Task Force Plan Approved

A plan intended to lead to expansion of oil shale leasing on Federal lands in the West was approved in June 1980 by the Interior Department. The plan creates an oil shale task force within the Department and sets forth work schedules in order to add to leasing of new tracts under the Interior's Prototype Oil Shale Leasing Program. In the meantime, Interior announced the results of its request for parties interested in oil shale leasing on Federal lands to suggest technologies they feel have the greatest promise for development for oil shale.

Wilderness Study

150 million acres of public lands have been released from further wilderness review as the result of on-going studies by the Bureau of Land Management. Nearly 24 million acres of public lands administered by BLM have been designated as wilderness study areas following the Bureau's two-year inventory process in the Western states. The inventory examined 174 million acres of public lands predominantly in the West, excluding Alaska, to determine if wilderness characteristics were present as defined by the 1964 Wilderness Act. Public lands identified for wilderness studies must be managed in a manner that does not impair wilderness suitability, except with respect to existing mineral and grazing uses, which are allowed to continue in the same manner and degree. Valid existing rights are also recognized. Standard wilderness study procedures are being developed and were released in draft form in mid-December. The public will have until early March 1981 to review and comment on the study procedures. In addition, draft policies and procedures governing management of BLM-administered wilderness areas (once designated by Congress) were released for public review and comment in early January 1981.

Cooperation on Proposed Energy Corridors

The Bureau of Land Management, Agriculture's Forest Service, and the Western Interstate Energy Board have agreed to cooperate in planning and review of proposed energy corridors. Initial focus will be on proposed corridors for energy transmission systems—such as high voltage transmission lines, major telephone transmission systems, and pipelines—crossing public lands administered by BLM and Forest Service. Immediate attention will be devoted to needs developed cooperatively by the Western Utilities Group and the Western Systems Coordinating Council, an association of large-scale electric energy suppliers.

BLM management issued the first right-of-way grant to Pacific Gas Transmission Co. to prebuild 160 miles stretching from Eastport, Idaho, to Stanfield, Oregon.

When completed in 1985, the pipeline will provide two billion cubic feet of gas per day to the Nation, or the equivalent of five percent of the country's total natural gas demand.

Echoes from a Hoof-Hammered Land

by Evaline A. Olson

The historic and now silent townsite of Carpenter in northeast Colorado came alive briefly on a bright November day in 1980 for the dedication of the Little Book Cliffs Wild Horse Range managed by the Bureau of Land Management.

From near and far more than 100 people gathered. They had travelled through blinding clouds of grey and red dust, reminiscent of an earlier day when hundreds of horses pounded across these hoof-hammered canyons and scenic mesas to stand proudly in the wind and survey their domain. Reflecting the changing West, wild horse lovers came in blue jeans and cowboy boots, business suits and classic oxfords to honor the preservation of a unique wild horse herd and to salute one woman whose tireless efforts culminated in national legislation for the protection of all wild and free-roaming horses and burros in national forests and on public lands.

The woman honored was the late Velma B. Johnston, a diminutive executive secretary from Reno, Nevada. Mrs. Johnston's 27-year dedication as an equine protectionist began in 1950 and earned for her the name "Wild Horse Annie". (See accompanying story.) The Little Book Cliffs Wild Horse Range is dedicated to the memory of Wild Horse Annie, whose crusade has kept wild horses and burros a part of America's living heritage.

From 1950 to 1977 Johnston crusaded for Federal protection of wild horses and burros on public rangelands in the West. Her work drew millions of young people to a better understanding of conservation and government. The Little Book Cliffs wild horses, one of her favorite herds, will live as an appropriate tribute to "Wild Horse Annie".

Some say the wild horses, their history entwined with the taming of the West, are descendants of the mounts that carried the Spanish Conquistadores into Colorado in their search for the Seven Cities of Cibola.

Since 1968, three years before the passage of Public Law 92–195, commonly known as the Wild, Free-Roaming Horse and Burro Act, on December 15, 1971, the splendid Little Book Cliffs herd figured prominently in the land

"It is both fitting and delightful to dedicate to 'Wild Horse Annie' an area where proper management of wild horses is the primary goal. . . .", said George Lea, Deputy Director, Lands and Resources.

management plan of the Grand Junction District Office of BLM. Among the management complexities were domestic livestock, deer and other wildlife. All depended on the resources of the sparse vegetation of the 27,000-acre Little Book Cliffs area. Also, looming on the horizon, resources for the energy needs of America were seen in the valuable Little Book Cliffs area. These factors called for innovative and creative multiple-use management.

Working as good neighbors, in the spring of 1974 ranchers and BLM land managers arrived at an agreement that settled wild horse and domestic livestock conflicts. The plan allowed wild horses to use the resources of a selected fenced area while the domestic livestock used another.

Under a specific management plan, vegetation and horse numbers have since been monitored by BLM range, watershed, and wildlife specialists. In 1971, the now-designated range held some

Wild Horse Annie

by Alan Kania

In 1974, Velma B. Johnston, then 65 years old, nimbly jumped out of a four-wheel-drive Scout in the Book Cliff Wild Horse area north of Grand Junction. A heat-struck admirer asked, "Velma, what keeps you going?"

She boldly looked him square in the eye and answered, "A tight girdle and a case of hairspray!" The 98-pound secretary could carry the weight of her avocation despite her diminutive stature.

Johnston, who died in 1977, was better known as "Wild Horse Annie" to millions of wild horse and burro proponents. From 1950 until her death, she earned her reputation and nick-name as a western conservationist and wild equine protectionist. Her 27-year campaign began unexpectedly one morning in Nevada.

In 1950, Johnston was on her way to work. Just ahead of her, a truck pulled into traffic—blood was dripping from its tailgate. She later learned that a colt, gathered in a wild horse roundup, was being shipped to a food processing plant. The foal had fallen in the truck and was being trampled by the adult horses.

Annie's allergy was her secret.

That day, Velma B. Johnston launched a national campaign to federally protect the animals. She had little money to spend on lavish public relations blitzes. Instead, she used nearly every cent of the salary she earned as an executive secretary for a Reno insurance broker.

Twice, Annie's convictions brought her to Washington, D.C., where she was responsible for the passage of two federal laws that still protect the wild horses and burros that roam the western public lands. Twice, Annie spent time personally visiting the Book Cliff wild horses.

This winter, Colorado will acknowledge Velma B. "Wild Horse Annie" Johnston's contributions to the State. Over 10 cases of her personal papers have been catalogued and made available to students and journalists using the Denver Public Library's Conservation Library. Included in the collection are personal documents pertaining to some of Annie's most controversial campaigns.

Annie's home-base organization, the International Society for the Protection of Mustangs and Burros, has succeeded in making another of her dreams a reality. ISPMB and the Bureau of Land Management/Department of the Interior co-sponsored the November establishment of the "Little Book Cliff Wild Horse Range, dedicated to the memory of Velma B. 'Wild Horse Annie' Johnston." The 27,000-acre semi-private range north of Grand Junction hosts 75–100 horses.

Wild Horse Annie's contributions to Colorado and western heritage are awe-inspiring. But for all the contributions and dedication that Annie made on behalf of the wild horses, she was often in great discomfort around the wild equines—you see, Wild Horse Annie was allergic to horses.

Alan Kania is a freelance writer and a member of the Board of Directors of the International Society for the Protection of Mustangs and Burros.

Progeny of the wild bunch, "Hot Cocoa", is admired by dedication visitor. The colt, held by Linda Jordan, was sired by quarter horse, out of grey mare in background. Chris VanDenBerg, Grand Junction, adopted the mare, Ginger, through BLM's Adopt-a-Horse program.

Several Grand Junction area wild horse adopters brought their sleek animals to the dedication.

50 horses. By 1977 the population had jumped by nearly 80, to over 120 animals. In November of that year, following extensive public involvement, BLM rounded up 50 horses, removed 40 and returned 10 of the better horses to assure herd improvement. All 40 horses removed from the Little Book Cliffs area were adopted under the Bureau's Adopt-a-Horse Program by people who appreciate this unique animal. It is now estimated that the herd is increasing at an approximate rate of 15 percent annually.

The Little Book Cliffs Wild Horse Range is the first area to be dedicated since passage of the Wild Horse Act in 1971. It is the third area that the Bureau has set aside for the primary use, maintenance and protection of a wild horse herd. The other two are the Nevada Wild Horse Range being managed in conjunction with Nellis Air Force Base and the Pryor Mountain Wild Horse Range on the border of Montana and Wyoming.

The Nevada Range consists of nearly 400,000 acres of desert and rolling hills. There are approximately 1,000 horses in the area.

The Pryor Mountain Wild Horse Range covers some 43,000 acres of public land. The rugged topography maintains a herd of 125 to 140 horses, a level compatible with their habitat. Roundups are usually held every other year to keep the herd in balance with the food supply. Most of the horses removed from the area have been adopted under the Adopt-a-Horse Program.

The excess animals are captured and removed by different methods, depending on the terrain, water supply, and suitability of trapping sites. Once the animals are inspected and located in corrals with ample food and water, the job of matching up the horse and Adopt-A-Horse applicant begins. Based on information obtained from applicants, "foster parents" are selected. Successful applicants, for the most part, have been delighted with their horses.

Attending the pomp and ceremony of the dedication of Little Book Cliffs were former "residents" of the area—once wild horses that came with their new "foster parents". Now sleekly groomed and gentled, the former wild horses stood quietly by as "Wild Horse Annie" was lauded for her keen sensitivity to the delicate balance between preserving the wild horses and preserving the capability of the land to support them.

"She knew too few horses were an abuse of our national heritage, and that too many horses would be an abuse of the land. This relationship between herd size and grazing capacity is the basis of proper management of wild horses and burros," said George Lea, BLM Deputy Director for

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Plaque honoring memory of "Wild Horse Annie" is displayed by C.W. "Bill" Luscher (l), BLM Colorado Acting State Director, Helen A. Reilly, who unveiled the plaque, and George Lea, BLM Deputy Director. Plaque will be placed in the heart of the Little Book Cliffs Wild Horse Range.

Lands and Resources.

Local ranchers, who selflessly contributed to the development of the range, were presented with individual certificates which stated, "As a member of the ranching community, you have typified a 'Good Neighbor' to the Bureau of Land Management in its multiple-use management of public lands. You have given complete cooperation by relinquishing a substantial portion of your grazing allotment to create a contiguous vegetative area for the more effective management of the unique wild horse herd of the Little Book Cliffs Wild Horse Range."

Alan Kania, Denver author and board member of the International Society for the Protection of Mustangs and Burros, is coordinating and editing the papers of Mrs. Johnston for the conservation wing of the Denver Public Library. "Her papers," Kania said, "have been a great inspiration to me. They will be open to the public the first of the year for anybody who wants to learn more of the wild horse and burro movement."

The dedication of the Little Book Cliffs Wild Horse Range was the climax of an historic day. It was a testimonial to the love of the people for this colorful remnant of our Western heritage and a powerful argument in behalf of efforts to have permanent ranges designated where the horses can be protected and controlled.

Now that it is formally designated, the Wild Horse Range will continue to be recognized as a multiple-resource area. It is now being used for public recreation, oil and gas exploration and production, and livestock grazing. Watershed and other resource values will continue to be protected.

The Bureau is exploring the potential for additional ranges. Over the long term, the concept of ranges or sanctuaries may prove to be an important element in the preservation of wild horses and burros as a valued part of the natural western environment and its history. This is particularly so if the encroachment of human activity continues to expand into remote areas which now provide habitat for horses, burros, and other forms of wildlife.

In terms of protection, management, and public education, the ranges could offer distinct advantages not possible when horses or burros are widely dispersed over millions of acres of intermingled Federal, State, and privately owned lands. Management of wild horses and burros would be the principal resource use in the established range. Other uses would also be protected and managed, but consistent with the management and protection granted to horses or burros.

Evaline Olson is a Public Information Specialist in the Bureau of Land Management's Colorado State Office in Denver.

They Painted the West - V

George Caleb Bingham— Painter of the Missouri Frontier

Paul Herndon

RAFTSMEN PLAYING CARDS. *The downstream voyage was a time for relaxation as the boat floated with the current.*

As Catlin painted Indians—
As Miller painted Mountain Men—

George Caleb Bingham's pictures portray the life of the settler on the Missouri frontier.

Today they provide us with a unique and dramatic record of this facet of the development of the West.

George Caleb Bingham was born on March 29, 1811 in the Blue Ridge Mountains of Virginia. He was the son of Henry V. Bingham and Mary Amend, a woman who was exceptionally well educated for her time. It was to her that Bingham was indebted for his own education.

When Bingham was eight years old, financial losses forced the family to move to the frontier town of Franklin, Missouri. This town was located 200 miles upriver from St. Louis, and by the time the Binghams arrived, it was the most important town along that stretch of the river. Even then it was far from primitive.

In Franklin, the Bingham family settled down to regain their fortune. Apparently they were well received. Henry Bingham opened a tavern and bought 160 acres of land in the Arrow Rock township. A few years later he was the county Judge. But the promising start had a setback in 1823 when Henry died. Mary Amend Bingham tried to assume the family responsibilities. She opened a school for girls and tried to operate the tavern, but for the second time bad judgments caused the loss of family fortune. Mary Bingham moved the family to a farm near Arrow Rock. There she reopened her school and George was apprenticed to Jess Green, a local minister and cabinetmaker.

When the church transferred Green to another district, George moved to Franklin to work for another cabinetmaker named Justinian Williams. In his spare time he read all the books on art technique that were available and poured over prints of the paintings of Thomas Sully.

When George was 19 he quit his job and set out for St. Louis to study art. The trip was a near disaster. Before he got to St. Louis,

he came down with the measles and almost died.

As soon as he was able to travel, Bingham returned to Arrow Rock and spent several months regaining his strength. The measles had caused him to lose his hair, and thereafter he always wore a wig. More important, his illness had wrecked his plans to study art, but it had not diminished his determination to become an artist.

He began his professional career as an artist when he opened a portrait studio in Franklin. Using house paints and some well-worn brushes left behind by an itinerant artist, he accepted commissions to paint portraits on approval.

When he was able to please his subject, he got $20 for a portrait, frame included. He quickly improved and was soon in great demand as a portrait painter. Between 1830 and 1838 Bingham spent his time as an itinerant portrait painter. He would open a studio in a new town, stay as long as business was good and then move to another location. He opened a studio in St. Louis in 1835 and received favorable notice in the *St. Louis Bulletin.*

Throughout the period, he had as much business as he was able to handle, but he also found time for romance. In 1836 he left St. Louis to return to Franklin where he married Sarah Elizabeth Hutchins.

As we read the accounts of this phase of Bingham's life, we begin to suspect that, despite the fact that he had become highly successful as a portrait painter, he was frustrated by the limits of this form of art. Like most artists of his day, he had given much of his time and talent to portraits because it was the one form of painting the artist could depend on to make money.

The camera was still in the future, and once a family had the means, they hurried to the local portrait painter to have him paint likenesses of as many members of the family as they could afford.

Bingham's discontent may have been first expressed in a letter he wrote to Sarah Elizabeth shortly before they were married.

"Though I generally succeed in pleasing others," he wrote, "it is seldom I can please myself."

His search for new horizons led him to make a three-month visit to Philadelphia in 1838, and he may have made a visit to New York during this time. Many students of Bingham's life and work believe that he became interested in genre art—a style of painting concerned with depicting scenes and subjects from everyday life—while he was in Philadelphia.

After he returned to Arrow Rock he made his first venture into genre painting when he did a picture he called "Western Boatmen Ashore." The picture was not well received. Discouraged, and probably believing that genre art was beyond his talent, he continued to paint portraits for several more years.

Nevertheless, a desire to try more genre art pulled at him. He did some sketches of frontier life and in 1840 started to do sketches of political scenes when he attended a convention of the Whig party.

Still reluctant to give up the security offered by portrait painting, he was, perhaps without being fully aware of it, starting to absorb the color and flavor of scenes of the Missouri frontier.

For success in genre art, the artist needs a special kind of eye. For his pictures to have value, he must see uniqueness in the ordinary and significance in the mundane scenes of daily life. Without becoming maudlin or clownish, he must recognize the pathos as well as the humor of his surroundings. He seeks and when he succeeds, he captures an age or a region and makes it live forever.

Sometime in the mid-1800's Bingham took the plunge into genre art. This time he was successful and it is this phase of his career that commands our attention for it transformed an accomplished craftsman into an important American artist.

Art historians have divided Bingham's art according to subject matter. The divisions are: the River Series, the Political Series, the Landscapes, and the Historic and Patriotic Series. The divisions are convenient, and we shall use them here.

The River Series

The Missouri River was the dominant feature of the Missouri Frontier. It was the major avenue of commerce and trade across the State. By the time the Bingham family arrived in the area, the steamboat was a fact of life, and the most active area in any river town was the waterfront. But the steamboat had not yet replaced the keelboats, rafts, pirogues, and scows that dominated the river for years.

The river environment gave rise to a special breed of men. They devoted their lives to the river and learned all of its moods. Sandbars and sawyers, channels and currents were all charted in the mind, and their boats were the workhorses of their trade—designed to do the job at hand.

Work was hard. Boats had to be loaded and unloaded, and sometimes they had to be cordelled upstream. But the downstream voyage was a time for relaxation as the boat floated with the current. On the downstream trip the boatmen took their ease, resting, playing cards, or dancing to the fiddle or the banjo.

Bingham saw river life through the eyes of a romantic, and his portrayal of the boatman's life is idyllic. Steamboats rarely appear in his pictures. Perhaps he saw them as mechanical intrusions into the tranquility of the Missouri—or perhaps he considered them a fad that would pass with time. At any rate, Bingham's river boats are the barges, pirogues and keelboats of an earlier day.

His boatmen are rarely caught working. One would believe that life on the river was one of relaxation and play. Yet he captures an essence.

Political Series

In 1851, Bingham started a painting which he called the "County Election". It marked the beginning of the Political Series of his career. The pictures that make up this series differ from the River Series, not only in subject matter, but also in compo-

sition. Where the river pictures show small groupings of people, the Political Series often portray masses. Here we see the earnest-faced politician pleading for his cause. Often he is surrounded by local dignitaries, who are puffed with their self-importance. The faces of the crowd gathered about the speaker mirror rapt attention, skepticism, boredom and disinterest. With the exception of costuming, Bingham's people could be a typical audience of modern-day America.

Bingham had a firsthand knowledge of, and a frontiersman's respect for the political process. He had been a candidate for political office, and had experienced both success and failure in taking his cause to the people. He was a man who held deep convictions about the issues that affected his State and community. His paintings flow naturally from his involvement. Yet he also seems to have had a talent to disassociate himself from the scene—to be able to stand apart and view the activity as a skilled observer.

The Landscapes

There is really nothing very outstanding about Bingham's landscapes. In this writer's opinion, they are generally inferior in quality to those paintings done for the River and Political Series. An exception should be made for "Cottage Scenery". However, some critics doubt that Bingham painted this picture.

JOLLY FLAT-BOATMEN IN PORT. *Bingham's boatmen are rarely caught working, yet he captures the essence.*

The Historical and Patriotic Series

It was Bingham's misfortune to live through the period of the Civil War. Being a man who held strong political views, he was deeply distressed as the strife over slavery and States' rights built up during the 1850's. His painting "The Emigration of Daniel Boone" in 1851 and his "Washington Crossing the Delaware," which he started in 1856, may have been attempts to remind all Americans of their common origins.

His support of the Union was passionate. When war finally broke out, he volunteered as a private in the Irish Company of Van Horn's Battalion of the United States Volunteer Reserve Corps. Shortly after he joined the Company, he was elected its Captain. The battalion was assigned to keeping order in Kansas City. Eventually he resigned these duties to accept appointment as Treasurer of the State of Missouri.

Although Bingham's support of the Union was total, it did not keep him from being critical of what he considered Union excesses in the prosecution of the war. On August 25, 1863, the Union General Thomas Ewing issued his infamous Order No. 11, calling for the evacuation of all settlers from a large section of western Missouri and the destruction of all property within the area. The Order imposed great hardship on many who were loyal to the Union as well as on some who were not.

Bingham pleaded with General Ewing to rescind the Order, and when the plea was refused, he painted the picture "Order No.

11" which he used in an attempt to bring down public censure on General Ewing.

During that period immediately preceding the outbreak of war, Bingham had been bitter in his renunciation of southern marauders. But after the war broke out he was equally bitter in his renunciation of northern marauders. After the war, he opposed the radical policies of reconstruction that were imposed on the South.

In his efforts to mix art and propaganda, it was the art that suffered. His passions betrayed his artistic judgment. In "Order No. 11", the treatment of the subject matter is melodramatic and the quality of execution is inferior to his better works. In later years he spent a great deal of time in defending the painting from attack by more radical Union supporters.

Ironically, Bingham's position on the conduct of the war and on the policies of reconstruction won wide support in the South. In 1878 he was asked to choose a design for the Robert E. Lee Monument Association of the State of Virginia and was received as something of a hero in Richmond.

For George Caleb Bingham, art and life were closely interwoven. He refused the romantic mold of a starving recluse painting masterpieces in an attic. He was an active participant in the day-to-day life of his State and community—liked and respected by those around him. Although never rich, his art adequately supported him and his family.

He suffered his share of tragedy, but also enjoyed honor and success. His first wife, Sarah Elizabeth, died after a mere twelve years of marriage. His second wife, Eliza K. Thomas was committed to an asylum for the insane in 1876 and died a year later. Shortly after that, mental disturbance caused one of his sons to turn against him. This alienation caused Bingham great distress.

Yet, showing the indomitable spirit of the pioneer, he married for the third time to Martha Livingston Lykins who survived him.

He was both elected and appointed to political office, and was a professor of art at the University of Missouri at the time of his death.

If the record is complete, Bingham did his best work without formal training. If by "primitive" we mean an artist who is self-taught, then Bingham was a primitive, but if the term is used to describe someone whose work shows an amateurish quality, he was far from primitive. In fact, his pictures show such consummate skill in composition and color, many critics have insisted that he must have had a teacher. In support of this theory, many point to the time he spent in Philadelphia and speculate that he must have enrolled in the Pennsylvania Academy of Fine Arts during the three months he spent in the city. However, in the preparation of his definitive work on the life of Bingham and his art, Albert Christ-Janer found no evidence that Bingham ever enrolled in that Academy.

We know that he did have opportunity to study the works of other artists including the European masters. While in Philadelphia, he saw the genre painting of prominent American artists. In many ways, his mind was like a sponge, quickly absorbing ideas to which he was exposed.

Critics agree that the quality of Bingham's work deteriorated after 1856. That year he made a trip to Europe and may have studied art in Dusseldorf, Germany. If so, the lessons failed to improve his talent. After returning from Europe he produced nothing of quality. No one seems to know for certain what happened, but several reasons suggest themselves. Some feel that in his efforts to imitate the European style of painting, he compromised his own native talent. But it also seems certain that the coming of the Civil War, and his involvement in it, diverted his energies into other fields. What seems more explicit, he tried to use his talent to promote his political and moral views. In so doing he turned from art to propaganda.

In regard to this change in the quality of his work, Christ-Janer quotes C.B. Rollins, a student of Bingham's life and art as saying,

"An artist may come to the end of a chapter of his life; he is lured by new interests; he tries to explore other modes. About 1856, Bingham searched for new scenes; he wanted to expand his horizons. He set sail and explored other worlds. I think he got lost."

Yet Bingham's best work was too good to be obscured by a bad ending. He opened a window on a facet of the American experience that no one else has shown. The best assessment of Bingham as an artist was made by a fellow artist and fellow Missourian, Thomas Hart Benton. That assessment, quoted by Christ-Janer, is an eloquent commentary on the man and on art in general. Benton wrote:

"Bingham lived in a day when it was the picture rather than the way it was made which occupied the amateur's attention. No elaborate pseudo-technical verbiage was erected between his picture and his audience. If he painted a tree, it was a tree and not a sign pointing to some obscure world of special values which this cult or that was trying to prove its superior sensibilities. Painting was plainer and more matter of fact in Bingham's day. There were no painters' painters, nor was one supposed to need some special training or some occult capacity to determine whether or not one liked an artist's work. A picture was not directed to coteries of precious experts but to ordinary people who might buy it and put it in their homes. This is healthy and as it should be and, though Bingham lived close to the wilderness and faced hard times now and then, he had a public and was a successful artist. He painted for a living world and painted what that world could understand—its own life."

Paul Herndon is a Public Information Specialist in the Office of Public Affairs, Bureau of Land Management, Washington, D. C.

Public Land Sales

Tracts of public land are sold by the State Offices listed on this page. Sales are held only when land use planning indicates that the public interest will be better served by disposal of the tract in question. In light of the time involved in preparing, printing, and distributing this publication, it is impossible to report on all sales far enough in advance to give most readers an opportunity to participate. However, notices of sale will be published in the Federal Register and in local newspapers serving the community where the land being offered is located. These notices will appear at least 60 days before the sale. Currently, the only States authorized to conduct auction sales are Nevada and Wyoming.

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BUREAU OF LAND MANAGEMENT

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701 'C' Street
Box 13
Anchorage, AK 99513

ARIZONA:
2400 Valley Bank Center
Phoenix, AZ 85073

CALIFORNIA:
Federal Building, Room E-2841
2800 Cottage Way
Sacramento, CA 95825

COLORADO:
Colorado State Bank Building
1600 Broadway
Denver, CO 80202

STATES EAST OF THE MISSISSIPPI RIVER, PLUS IOWA, MINNESOTA, MISSOURI, ARKANSAS AND LOUISIANA:
Eastern States Office
350 So. Pickett St.
Alexandria, VA 22304

IDAHO:
Federal Building, Room 398
550 West Fort Street
P.O. Box 042
Boise, ID 83724

MONTANA, NORTH DAKOTA AND SOUTH DAKOTA
222 N. 32nd Street
P.O. Box 30157
Billings, MT 59107

NEVADA:
Federal Building, Room 3008
300 Booth Street
Reno, NV 89509

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P.O. Box 1449
Santa Fe, NM 87501

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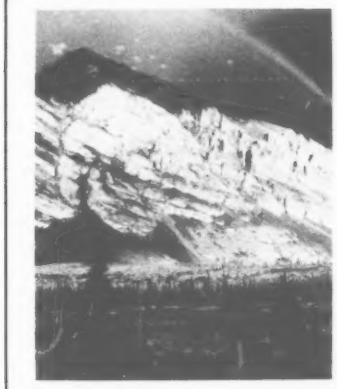

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